الجامعة المصرية

كلية الطب

المـــؤلف رقم ٤

منتخب كتاب جامع المفردات

لأحمد بن محمد بن خليد الغافقى

المتوفى نحو ســـنة ٥٦٠ هـ

انتخـــبه

أبو الفرج غريغريوس المعروف بابن العبرى

المتوفى فى ســـنة ٦٨٤ هـ

نشره مع ترجمته الانجليزية وشروحات

الدكتور ماكس مايرهوف ، الدكتور جورجى صبحى بك

الرمدى بالقاهرة

الأستاذ بالجامعة المصرية
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القسم الثانى — حرفا الباء والجيم

القاهرة

طبع بالمطبعة الأميرية ببولاق

١٩٣٧

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طبع بالمطبعة الأميرية ببولاق

١٩٣٧

حرف البـاء

١١٧ — بلَسان : (ذ آ) عظم شجرته كشجرة البطم أو شجرة فوراقشا له ورق كورق السذاب غير انه أشد بياضا كثيرا وأدوم وأدق ورقا . ويكون فى غور بلاد اليهود فقط وقد يختلف بالخشونة والطول والدقة وقد يسمى ذلك

16 r.

الدقيق الذى كالشعر الموجود فى شجر البلسان المحصود ولعله يسمى هكذا لكونه يحصد بسهولة لدقته وأما دهن البلسان فانه يخرج بعـد طلوع الكلب بأن تشرط الشجرة بمشراط من حديد . والذى يسيل منه شيء يسير والذى يجتمع منه فى كل عام ما بين الخمسين الى الستين رطلا ويباع فى مكانه بضعف وزنه فضة . أجوده الحديث القوى الرائحة الخالص الذى ليس فى رائحته حموضة سريع الانحلال لين يلذع اللسان يسيرا . وقد يغش بدهن البطم والحنا وشجرة المصطكى ودهن السوسن والدهن المسمى ماطوبيون [١] وبدهن الآس مع العسل أو الشمع . ومعرفة الخالص منه انه إذا قطر منه على صوفة وغسل من بعد رسب فى المـاء . والمغشوش فانه يطفو مثل الزيت ويجتمع أو يتفرق فيصير بمنزلة الكواكب ، وإذا عتق ثخن . وقد يغلط من يظن ان الخالص إذا قطر على المـاء يغوص أولا فى عمقه ثم انه يطفو عليه وهو غير منحل .

وأما العود المسمى عود البلسان فأجوده الحديث الخشن الدقيق العيدان الأحمر الطيب الرائحة كرائحة دهن البلسان . وأجود حبه الممتلى الكبير الثقيل الذى يحذى اللسان حذيا يسيل ويفوح منه رائحة دهن البلسان [وقد يؤتى بحب من البلاد التى يقال لها البطرايون شبيه بالأوفاريقون يغش به حب البلسان] [٢] . ويستدل

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(١) ت و غ : طوبيون .

(٢) هذه الجملة ناقصة فى ت و غ ، وقد نقلناها من جامع ابن البيطار (جزء ١ ص ١٠٨) .

عليه انه صغير فارغ ضعيف القوة شبيه بطعم الفلفل . (جَ وَ) البلسان يجفف ويسخن فى الثانيــة وليس له من الاسخان قدر ما يظنه به قوم غلطا منهم بسبب لطافته وأما ثمرته وهى حب البلسان فقوتها من جنس هذه القوة بعينها إلا أنها أقل لطافة من دهنه . (ذَ) قوة دهن البلسان شديدة جدا وهو حار مفرط الحرارة ينفع من أكثر الأمراض الباردة شربا وادهانا واكتحالا وبالجملة أقوى ما فيــه دهنه وبعده حبه وبعده عوده (ابن جلجل وغيره) إن الحب المعروف بحب البلسان هو حب البشام وان شجرة البلسان[1] المسمى عودها عود البلسان ويسمى دهنها دهن البلسان ليس بها ثمرة ومنبتها فى مصر بعين شمس فقط . وأما البشام فينبت بمواضع كثيرة وهو الذى يجمع حبه فيجلبه الصيادلة ويبيعونه ويسمونه حب البلسان . (قال المؤلف) لست أرى هذا القول صحيحا على كثرة تواتره وعلى أن جميع التجار اليوم مجمعون على أن حب الباسان هو حب البشام . وقد نجد كثيرا بين حب البلسان الذى يجلب الينا شيئا من عود البلسان وقد نجد فى عود البلسان شــيئا من حبه وهــذا يدل على أنهما من شجرة واحدة ، وأما دهن البلسان فقد رأيت قوما يخبرون أن شجرته بمصر من دخل مصر يزعم أنه رأى شجرة بعين شمس فقط فى جنان يحميهـا السلطان فلا يخرج من حبها إلى البلاد شئ لئلا يزرع . وبعضهم يزعم أن دهن البلسان إنمـا يخرج من عوده بالتصعيد وهــذا خلاف لمـا ذكره

16 v.

القدماء ويمكن أن يكون هــذا المعروف اليوم عندنا بدهن البلسان غير الذى ذكره القدماء مع أنه على غاية القلة والعدم . وحبه ليس كذلك بل هو موجود كثيرا وكذلك عوده وقــد ذكر كثير من الأطبــاء شجرة الباسان التى بمصر بعين شمس ووصفوها فى كتبهم بأنها شجرة البلسان ؛ تعلو على الأرض قدر ذراع أو أكثر ولها قضبان غضة كقضبان الشبرم ولها ورق أحمر دقيق صغير يشبه ورق الخلاف أو ورق اليتوع . ولها فى رأس أغصانها عناقيد فيها حب فى قدر الفلفل إلا أنه أقل سوادا منه .

(١) ت : البشام .

وعندنا نبات يزعم قوم أنه البَشام يعلو نحو القامة وله ورق طويل أخضر يضرب إلى صفرة وغيره أصغر من ورق اللوز وعوده خوار فى داخله شئ أبيض كالقطن فيه عطرية وله حب فى قدر حب الفرو وهو عطر الرائحة وقد يباع ويستعمل عوض حب البلسان ونباته فى شواهق الجبال . وآخرون يزعمون أنه نوع من الأراك . وقد يمكن أن يغش حب الباسان بحب أصناف الفرو فان فيها ما يشبهه جدا (أبو حنيفة) البشام شجر ذو ساق وأفنان وورق صغار أكبر من ورق الصعتر ولا ثمر له . وإذا قطعت ورقته أو قصف غصنه خرج منه لبن أبيض . وهو شجر طيب الرائحة والطعم يستاك بقضبانه ومنابته الجبال . وورقه يسود الشعر .

١١٨ — بان : (أبو حنيفة) بان شجر يسمو ويطول فى استواء كنبات الأثل وورقه أبيض وله هدب كهدب الأثل وخشبه خوار رخو خفيف وقضبانه خضر وهدبه ينبت فى القضيب وهو طويل شديد الخضرة ثمرته كقرون اللوبيا إلا أن خضرتها شديدة وفيها حب . فاذا انتهى تفتق وانتثر حبه أبيض أغبر نحو الفستق غير أنه أقصر وأشد سمرة . ويتفتت نحو قشور الفستق ومنه يستخرج دهن البان وثمره يسمى الشوع وهو مربع ويكثر على الجدب . وإذا أرادوا طبخه رض على صلابة وغربل حتى ينعزل قشره ثم يطحن ويعتصر وهو كثير الدهن .

(ذ د) بالانوس مورافسيقى . ثمرة شجره تشبه الطرفاء وقد تعتصر كاللوز المر فتخرج منه رطوبة فتستعمل فى الطيب المرتفع مكان الدهن . وقد تنبت هذه الشجرة ببلاد الحبش ومصر والعرب والموضع المسمى فاطرا فى فلسطين . وأجود هذا الثمر الحديث الممتلى السهل التقشير . اذا شرب منه مسحوقا ذرخمى بخل ممزوج بماء أذبل الطحال ويضمد به النقرس ويذهب الجرب مع الخل . (ج و) هذا دواء يجلب إلينا من العرب والعطارون يستعملون عصارة لبه وجوفه . وشرب مثقال من عصارته بالعسل والماء يقئ ويسهل كثيرا ومع الخل يجلو الكلف والبهق

17 r.

والنمش والسعفة والبثور المتقرحة . والقشر الخارج من حب البان فقبضه أكثر جدا .

١١٩ — بُنْك[١] : (ذ آ) ناسقافثون وقد يسمى نارقافثون يؤتى به من الهند ، وهو قشر كقشر شجر التوت ويدخن به لطيب رائحته ولنفعه فى انضمام فم الرحم . (ابن رضوان) دواء طيب الرائحة يقال انه ينحت من أصل خشب أم غيلان باليمن . قابض بارد يابس يقوى الأعضاء ضمادا و يمنع العرق. (ابن سينا) أجوده الأبيض الخفيف العذب الرائحة والأبيض الرزين ردى . حار يابس فى الأولى جيد للمعدة ينقى الجلد ويقلع رائحة النورة . (المجوسى) ملطف يقوى المعدة والكبد الباردتين ضمادا وشربا .

١٢٠ — بُطْم : (الفلاحة) ينبت بالجبال على حجارة وصخر وعيدانها خضر الى السواد وحبها أبيض . (ذ آ) طرمينثوس[٢] شجرة الحبة الخضرة قوتها كقوة شجرة المصطكى وصمغتها كصمغتها ويصنع دهنها كدهن الغار وشراب شجرتها كشراب الآس . وهو قابض مسخن وثمرتها ردية للمعدة مسخنة مدرة للبول تحرك شهوة الجماع ومع الخل توافق نهشة الرتيلا . (ج ح) فى لحاء هذه الشجرة وثمرها وورقها شىء قابض مجفف مسخن مدر ينفع الطحال .

١٢١ — بلّوط : (ج و) جميع أجزاء هذه الشجرة قوتها قابضة وأما الذى هو منها شبيه بالغشاء فيما بين القشر والعود فهو أشد قبضا . وكذلك الغشاء المستبطن قشر ثمرته أعنى التى تحت قشرة البلوط ملفوفا على نفس جرم البلوط وهو جَفْته . يشفى نفث الدم وقروح الأمعاء وأكثر ما يستعمل مطبوخا . وأقوى من هذا فى القبض النبات المسمى فيغوس والمسمى فرينوس اللذان يعدان من أنواع

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(١) ت : نبك ، غ . نبك

(٢) ت : طرميثوس ، غ . طرميتوس

البلوط ويجوز أيضا أن يعتقد أنهما يخالفانه فى الجنس . وقال (فى الأغذية) البلوط كثير الغذاء يتخذ منه خبز وفى سالف الدهر كان الناس يتغذون به وحده. وغذاؤه ثقيل غليظ عسر الانهضام وأجود منه الشاهبلوط . (ذ آ) ذروس : طبيخ قشره اذا شرب بلبن البقر نفع من السم المسمى طوكسيقون والمسمى أفيارون [1] . والنوع من البلوط المسمى فرينوس أقوى فعلا من سائرها ويسود الشعر . والشجرة المسماة فيغوس أيضا من أصنافه . وأما ما يسمى سرذيانو ولوفيا وقسطانيا وموطا وبلوط كوكب المشترى ، وهو الشاهبلوط فانه قابض أيضا كالبلوط .

١٢٢ — بَقّس : يسمى بالشام الشمشاد و باليونانية بقسيس (ابن جلجل) شجرة ورقها كالآس وحبها كحبه وعودها أصفر صلب قابض يعقل البطن .

١٢٣ — بقّم : (قَ) خشب شجر عظيم ورقه كورق اللوز أخضر وساقه وافنانه حمر ونباته بأرض الهند والزنج ويصبغ بطبيخه . (ابن رضوان) يلحم الجراحات ويجفف القروح ويقطع انبعاث الدم .

17 v.

١٢٤ — بليلج : (ابن عمران) ثمرة هندية خضراء ترض وتجفف فتصغر طعمه مرّ عفص . (غيره) يشبه الهليلج أملس القشر رخو عفوصته لذيذة مع مرارة يسهل السوداء باللطف . (ابن سيناء) لا شيء أدبغ للمعدة منه وربما عقل البطن وفى الأكثر يلين . (المجوسى) قوته أضعف من الأملج .

١٢٥ — بُل : (الخوزى) هو قثاء هندى كقثاء الكبر مر حار يابس فى الثانية قابض عقل يقوى الأحشاء نافع ينفع الأمراض الباردة . (ابن عمران) هى حبة سوداء محددة تشبه الذرة فى داخلها ثمرة دسمة وهى المستعملة يؤتى بها من الهند تنفع من استرخاء العصب والنقرس وتزيد فى الباه .

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(1) ت : افادون ، غ : فارون .

١٢٦ — بَلاذُر : (ابن جلجل) ينبت بأرض الهند والسند وهو حب فيما بين الفستق واللوز الى الشاهبلوط أقرب من الفستق بالتشبيه أسود اللون فى داخله حبة كاللوزة بيضاء عليها قشر حوله عسل أسود الى الحمرة . (غيره) يؤتى به من الصين وقد ينبت بصقلية فى جبل النار . (ابن سينا) لبه كلب اللوز حلو لا مضرة فيه وعسله لزج ذو رائحة مقرح مورم يحرق الدم والأخلاط . ينفع من الأمراض الباردة وفساد الذكر لكنه يهيج الوسواس والمالنخوليا وهو سم . (غيره) لبه باذ زهر له يدفع ضرره وقوم يقضمونه ولايضرهم خاصة مع الجوز والسكر .

١٢٧ — باقلّى : (جَ زَ) معتدل التجفيف والجلاء وجرم الباقلى فيه من كيفية الجلاء شىء يسير . وأما قشره قوته تقبض لا قوة تجلو ، ولهذا صار قوم من الأطباء يطبخون الباقلى بقشره ويطعمونه من به قرحة الأمعاء ومن به استطلاق أو قىء . والباقلى على شكل الطعام أشد نفخة من كل طعام وأعسر انهضاما إلا أنه يعين على نفث الرطوبة من الصدر والرئة وينفع الأورام الحارة ضمادا والمطبوخ مع شحم الخنزير للنقرس .

(وقال فى الأغذية) الباقلى نافع ولا ينفك عن النفخة بالطبخ كما لا ينفك الشعير . (ذَ بَ) قوامُس . يولد الرياح ويرى أحلاما ردية كاذبة ويزيد فى لحم البدن وإذا طبخ بالخل والماء وأكل بقشره قطع الاسهال من قرحة الأمعاء . والباقلى الحديث أردى للمعدة من العتيق . (غيره) خلطه ليس رديا ولا مولد السدد لأنه يجلو جلاء حسنا لكن إدمانه يثقل الرأس ويوهن الفكر ويورث هموما وأحزانا ويولد تكسيرا فى البدن وحكة وخصوصا طريُّه .

١٢٨ — باقلّى قبطى : (ذَ بَ) ينبت كثيرا بمصر وقد ينبت أيضا بآسيا وقيليقيا ويوجد فى المياه القائمة . ورقه كبار كالأجنحة وطول ساقه ذراع فى غلظ الأصبع . ولون زهره كلون زهر الورد أحمر وهو فى عظمه قريب من

زهر الخشخاش واذا أورق عقد سنًا كالخراريب وفيه الباقلى صغار ويعلو موضعه على الموضع الذى ليس فيه حب كأنه نفاخة الماء . ويسمى قيبوريون وقيبوتيون. وهو الموضوع فى مَدَر الطين لأن الذين يزرعونه يصيرونه فى كتل من الطين ويلقونه فى الماء. وأصله مثل القصب يؤكل مطبوخا ونيئا ويقال له قلقاس . وقد يؤكل هذا الباقلى طريا واذا جفف اسودّ وهو أصغر من الباقلى المعروف وقوته قابضة جيدة للمعدة . (الفلاحة) ينبت فى المياه القائمة بمصر. ورقه أنفش من ورق الأترنج قليلا وعيدانه ضعيفة فيها تعويج وعقد كثيرة وأصوله أكبر وأشدّ .

18 r.

تدويرا من أصول القصب . غذاؤه يسير محمود ويتولد عنه لحم رخو قليل ودم صالح قليل الاهتياج والثوران .

١٢٩ — بشنين : (ذ دَ) لوطوس المصرى هو صنف من الحندقوقا يكون بمصر وينبت فى ماء النيل اذا فاض وساقه كساق الباقلى . وهو أبيض شبيه بالشعر ينبسط اذا طلعت الشمس وينقبض اذا غربت الشمس وان رأسه اذا غربت الشمس يغوص فى الماء واذا طلعت يطلع على الماء . ورأسه يشبه العظيم من رؤوس الخشخاش وفيه بزر كالجاورس يجففونه المصريون ويطبخونه ويعملون منه خبزا . وله أصل شبيه بالسفرجلة يؤكل مطبوخا ونيئا وطعمه مطبوخا يشبه طعم صفرة البيض .

١٣٠ — بيرور[1] : (قسطا ابن لوقا) نبات ينبت فى المياه القائمة وينكشف عنها وهو فى شكل الكماة . وعليه قشر أحمر يستخرج من الأرض كالكماة ويؤكل مسلوقا . (ابن رضوان) هو أصل البشنين النابت فى النيل .

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(١) غ : بيروز ؛ ابن البيطار وداود الانطاكى : بيادون ؛

١٣١ — بيقة[1] : (ذ ب) افاقى تنبت فى الحروث وهى أطـول من نبات العدس دقيقة الورق وهى أعظم قضبانا . وغلف ثمـرها أكبر من غلف ثمر العدس وفيه ثلث حبات أو أربع سود أصغر من العدس . ويؤكل مثله مطبوخا ومطحنا يقطع تجلب المواد الى المعدة والأمعاء . (ج و) قوة هـذه الحبة قابضة وحرارتها معتدلة وهى أعسر انهضاما من العدس . (وقال فى الأغذية) هو ردئ الخلط السوداوى كالعدس الا أن للعدس فضائل ليست له .

١٣٢ — بَخْرة تسمى بالعجمية ارفيليه [2] : (ف) عشبة كالكشنى وحبه كحبه . ترعاها المـاشية فتسمن . ونباتها فى القيعان .

١٣٣ — باذنجان اسم فارسى ويسمى بالعربيـة الأنْب والمغد والحَدَق والوغد : (الرازى) جيـد للمعدة التى تقىء الطعام دائمـا ردى للرأس والعين مولد دما سـوداويا يسيرا ويفتح سـدد الكبد والطحال . والخل والدهن يصلحانه وشر ما يؤكل منه المشوى والنىء . (غيره) اذا شق وملح بالملح حتى يجرى ماؤه وتذهب حرارته لم يتبين له ضرر . ولكنه ردى الغذاء مسود للبشرة مصفر للون مبثر للفم . (ابن سينا) العتيق منه أردى والحديث أسلم . وعند ابن ماسرجويه أنه بارد والصحيح أنه حارّ يابس فى الثانيـة مسدد الا المطبوخ منه بالخل وليس يعقل ولا يطلق .

١٣٤ — بصل : (ج ز) مسخن فى الرابعة وجوهره غليظ . (ذ ب) قروميون . الطويل منه أشـد حرافة من المدور والأحمر من الأبيض واليابس من الأخضر والنىء من المشوى ومن المخلل والمملح . وكل البصل فهو لذاع مولد للرياح فاتق لشهوة الطعام ملطف معطش مغثى مقىء نافخ للبطن مفتح لأفواه العروق والبواسير . واذا اكتحل بمـائه مع العسل نفع من ضعف البصر ومن ارغاما

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(١) كذا فى ت و غ ، ابن البيطار : بيقية .

(٢) ت : أوفليولة ، غ : أوفيلقة .

18 v.

والغمامة وابتداء المـاء والمطبوخ منه أشد ادرارا للبول. (غيره) يولد خلطا رديئا ويضر بالعقل ويسبت والطبخ يصلح حدته ويزيد فى البـاه حينئذ واذا أكل نيئا يدفع ضرر الميـاه واختلافها .

١٣٥ — بُلبوس : ويسمى بصل الزيز (الفلاحة) وهو بصل لا طاقات له وورقه وصـورته كالبصل البستانى وقد يعظم أصـله بكثرة المطر . وفى طعمه مرارة وقبض يخشن الحلق . (جَ وَ) الزيز يولد خلطا باردا غليظا لزجا لأنه عسر الانهضام نافخ مهيج لشهوة الجماع ومن خارج يجلو ويدمل ويجفف .

(ذَ بَ) بولبوس [1] : هو نبات يؤكل والاحمر منه من بلاد ليبوى جيد للعـدة والمتر منه يشبه الأسقيل وهـو أجود للعدة من الحلو ويهضم الطعام ويشهيه كثير الغذاء يكثر اللحم ويولد نفخا مخشن للسان وجانبى الحنك . مع العسل ينفع عضة الكلب الكلب ضمادا .

١٣٦ — بصل القىء (ذَ دَ) : ورقه أدق وأطول بكثير من البلبوس المأكول وأصله كأصله عليه قشر أسود وأصـله يقىء . (جَ زَ) هـو أسخن من المذكور قبل

١٣٧ — بخور مريم : (ذَ بَ) قيقلامينوس . ورقه كورق قِسوس وفى الورق آثار لونها الى البياض . وطول سـاقها أربع أصابع عليها زهر كالورد الأحمر فرفرى . ويخزن [2] (الأصل) مثل بصـل الفار وينبت فى مواضع ظليلة دافيا وخاصـة فى ظلال الشجر . وأصله مع شراب إذرومالى يسهل بلغما كثيرا أو كيموسا يابسا . وقيل أنه اذا تخطأته الحامل أسقطت وإذا شد فى الرقبة أو العضد منع الحبل . ومع الشراب ترياق للسموم خاصـة الأرنب البحرى ومع ماليقراطن الممزوج بالمـاء القراح يبرئ من اليرقان ثلاثة مثاقيل منـه ويجب آن يدفى شاربه

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(١) ت . بولو بوس .

(٢) هذه الكلمة ناقصة فى ت و غ . وقال ديوسقوريدس : واذا قلع أصل هذا النبات يخزن الخ

بتغطيته بثياب كثيرة واضطجاعه فى بيت حار ليعرق . ويقتل الجنين شربا ولطخا على السرة والمراق والخاصرة ويابين البطن . (جَ زَ) [1] قوته منقية جالية مفتحة جاذبة محللة مدرّة مفسد للجنين لو طلى على مراق البطن . وينفع أصحاب الزقاق لاخراجه المرار المنتشر فى جميع البدن بالعرق وكذلك ينبغى لنا نحن أن نحتال كل حيلة فى اجتلاب العرق لشاربه .

١٣٨ — بخور مريم آخر : (ابن الهيثم) نبات ورقه دقاق فى صفة ورق النيل . وعلوه ذراع دقيق فى أصل كل ورقة عسلوج صغير فى طرفه رؤوس صفر كأنها شعبة من أكاليل الشبث وبزره كبزره . وأصله يمنع الحبل تعليقا على المرأة .

١٣٩ — بَهْمَن : (ابن رضوان) هو أصل جَزَر برى منه أبيض ومنه أحمر (غيره) البهمن ضربان أحمر وأبيض وهى عروق فى قدر الجزر كثيرا ما تكون مفتولة ومعوجة منتسجة طيبة الرائحة والطعم وفيها لزوجة حار فى الثانية لطيف مفتح مقو للقلب جدا مسمن ينفع من النقرس ويحرك شهوة الجماع (لى) الأطباء المتأخرون متفقون فى صفة البهمن وقوته الا أنه .

19 r.

عندنا اليوم مجهول والاختلاف فيه كثير والمجلوب منه مع أنه غير شبيه بما وصفوا فيه أيضا اختلاف كثير . وقد يؤتى بأصول كالجزر داخلها أبيض وظاهرها لكى اللون ويقال أنه البهمن الاحمر . وقد يؤتى بقطع كالزنجبيل صلبة كالقرون عاجية اللون فيها لزوجة ويقال أنها بهمن أبيض وقد يستعمل نبات يسميه بعض الشجارين كف آدم ويزعمون أنه البهمن الاحمر وهو نبات يعلو ساقه نحو من ذراع وورقه فى قدر ورق الآس أطرافها إلى التدوير ماهى وأصول خشبه لونها ما بين السواد والصفرة وداخلها إلى الحمرة . وقد يكون نبات يسمى الكف

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[1] ت و غ : و .

الجذماء (1) له أصل كالشلجمة لونه أغبر إلى الحمرة هش خفيف رخو ينتؤ منه شبيه الاصابع اثنان أو ثلاثة ولهذا النبات ساق مربعة لونها فرفرى عليها زهر فرفرى كزهر خصى الكلب وكأنه صنف منه . وينبت فى رمال قريبة من البحر . ويستعمل أصله بدل البهمن الأحمر وقوته كقوته . وقد يؤتى بعروق بيض طوال مفتولة رخوة لزجة وهى البهمن الصحيح وقد يظن قوم أنه أصل النبات المسمى بالعجمية برشانه وقد يبيع الشجارون أصل البرشانه على أنه البهمن الأبيض الصحيح وقد يظن أن قوته كقوته . وهذا النبات له ورق فى طول ذراع وأكثر وعرضه دون الشبر وهو مشقق مشرف جعد أملس أخضر الى السواد وله بريق وهو كثيرًا نابت من أصل واحد واطرافه منحنية مائلة الى الأرض وله ساق خارجة من بين الورق فى غلظ الابهام طويلة جوفاء مدورة عليها ورق صغار من نصفها إلى أعلاها إلى الطول ما هى فيها تشريك وفيما بينها غلف كثيرة بعضها فوق بعض فى شكل مناقير البط عليها زهر فرفرى مائل إلى البياض داخله ثمر كالبلوط مملوء رطوبة لزجة . وله أصل طويل معقد رخو يشبه أصل الخطمى مملوء رطوبة لزجة غائر فى الأرض فيه شيء من حلاوة مع حرارة . قوته كقوة البهمن يزيد فى الباه ويخصب البدن ويدر البول وبعض الناس يسمى هذا النبات مطرشانه وبعضهم يسميه عشبة التجار ونباته فى المواضع الرطبة من الجبال والخنادق وقد يتخذه بعض الناس فى المنازل والبساتين .

١٤٠ — بوزيدان : عامة الصيادلة يقولون أبو زيدان ويزعمون أنه خصى الثعلب وهم فيه على الخطأ . وبعضهم يزعم أنه البهج والصحيح أنه البهج أو صنف منه .

(ابن جلجل) البوزيدان أصول صلبة بيض تشبه البهمن الابيض . وهو دواء هندى قليل التصرف وقد جلب الينا ورأيته مرارا . (ابن رضوان) هو ضرب من المستعجلة حار يابس فى الثالثة يذيب الاخلاط الغليظة الباردة . (ابن ماسويه) .

(1) ت و غ : الجذما .

19 v.

اجوده ما ابيض لونه وغلظ عوده وكثرت خطوطه الغير الاملس . (حبيش) منافعه كمنافع السورنجان فى المفاصل والنقرس . (ما سرجوبه) حار يزيد فى المنىّ ويسهل الماء الأصفر شربته درهمان . (ابن سينا) ينفع من السموم .

١٤١ — بَهَجَ : هو المستعجلة معروف يؤتى به من المشرق وقيل انه المغاث وقيل انه البوزيدان . وهى عروق بيض صلبة فيها لزوجة يستعملها النساء للسمنة وهو خطأ . وقد يغش به آخر يشبهه . وقيل انه أصل نبات ورقه كورق الطرخشقون إلا أنه حلو الطعم . وله أصل أحمر وله دمعة حمراء كالدم . اذا قشر خرج داخله أبيض ويجمعه الشجارون فيبيعونه عن البهج .

١٤٢ بَدِسكان ويقال باداسقان وبَدَسقان وبداسكان : (ابن سرافيون) قيل انه نبات مدور يجلب من أذربيجان . (الرازى) حشيشة يتخذ منها القبط أسورة . (ابن سينا) حشيشة يتخذ منها الزنج أسورة . (المجوسى) حار يابس ملطف محلل .

١٤٣ باذاوردْ : (ذَ جَ) أقنثالوقى أى الشوكة البيضاء . وينبت فى جبال وغياض ورقه كورق الخامالاون الابيض أدق منه وأشد بياضا وعليه شيء كالزغب وهو شوك طول ساقه أكثر من ذراعين فى غلظ الابهام وأكبر ولونها الى البياض ما هى جوفاء مربعة على طرفها رأس مشوك شبيه برأس القنفذ البحرى إلا أنه أصغر منه مستطيل لون زهره فرفيرى وبزره كحب القرطم إلا أنه أشد استدارة منه . شرب أصله صالح لنفث الدم والاسهال المزمن . وبزره ينفع المنهوشين ويطرد الهوام من المواضع التى تعلق فيها (جَ وَ) فى أصله تجفيف وقبض معتدل يضمر الأورام الرخوة ضمادا وطبيخه ينفع وجع الأسنان مضمضة . (المجوسى) أصله أقوى من ورقه وينفع من الحميات العتيقة واذا وضع على نهش العقارب ممضوغا نفعها .

١٤٤ — باذْرُوج هو الحبق الريحانى : (ابن جلجل) هو الحبق العريض الورق مشبع الخضرة يتخذ فى البساتين . والحبق القرنفلى نوع منه غيره هو بالمشرق من بقول المايدة . (جَ حَ) حار فى الثانية لا ينفع من داخل بل ضماده يحلل وينضج . (ذَ بَ) أوقيمون وهو الباذروج كثرة أكله تظلم العين وتلين البطن وتهيج الباه وتدر البول وهو عسر الانهضام . وماؤه يجلو ظلمة البصر وشمه يحدث عطاسا وينبغى أن يغمض العين تغميضا شديدا وقت العطاس . وأهل ليبوى يزعمون أن من يأكله لا يتألم للسعة العقرب . وقوم يحذرون أكله لأنه إذا مضغ ووضع فى الشمس تولد منه دود . (الرازى) جيد للمعدة والقلب واكثاره يظلم البصر . (ابن سينا) فيه قوى متضادة ولذلك يسهل من داخل ويقطع الرعاف من خارج سيما مع الخل والكافور ويذهب الضرس ويسكن العطاس فى مزاج ويحركه فى مزاج غيره .

20 r.

عاقبة أكله غير محمودة وهو مما ينقص الذهن جدا ويولد الدود فى الجوف ويولد دما رديا .

١٤٥ — باذرنجبوية . هو اللاعية النحلية وهو الترنجان : (ذَ جَ) ماليسوفولون وقد يسمى ماليطينا أى عشبة النحل وانما سمى بهذين الأسمين لاستطابة النحل الحلول فيها . وورقها وقضبانها يشبهان ورق بالوطى وقضبانه إلا أن ورقها أكبر وليس عليه زغب . ورائحته كرائحة الاترنج . شرب ورقها بالسذاب والضماد به يوافق لسعة العقرب ونهشة الرتيلاء وعضة الكلب الكلب . (غيره) معتدل الحرارة لطيف ينفع من جميع الأمراض السوداوية ويطيب النكهة ويفرح القلب . وشرب من ماء ورقه عشرون درهما ويؤكل نيئا مطبوخا . (جَ زَ) قوته كقوة الفراسيون الا أنه دونه كثيرا .

١٤٦ — بلوطى . وقد يسمى المرو البرى وريحانا بريا : (ذَ جَ) ويسمى مالامفراسيون وهو نبات قضبانه مربعة سوداء عليها زغب ومخرجها

من أصل واحد كبير شبيه ورق فراسيون الا أنه أكبر منه وأشد استداره متفرق بعضه عن بعض كورق ماليسوفن منتن الرائحة ولذلك سماه بعض الناس ماليسوفلن والزهر على القضبان على استدارة والتضمد بورقه مع الملح ينفع عضة الكلب الكلِب . (جـ و) قوته كقوة الفراسيون الا أنه دونه كثيرا .

١٤٧ — بولوقْنيمون : (ذ جـ) هو شجرة صغيرة تستعمل فى وقود النار ورقه كورق أوريغانس وثمر شبيه بالفلك كثمر غليخُن . وليس عليه أكليل لكن له رؤوس صغار طيبة الرائحة مع حدّه . واذا تضمد به ألصق الجراحات وينبغى أن لا يحل ضماده الى اليوم الخامس . (جـ حـ) يسخن ويجفف فى الثانية يدمل مواضع الضرب .

١٤٨ — بَلَسْكَنى[1] : يعرف بمصفاة الراعى والودود ومحب الصبيان . (ذ جـ) أفاريني وقد يسمى أمفالوقارفوس ومحب الناس وهو نبات ذو أغصان كثيرة طوال مربعة خشنة دليها ورق نبات باستدارة مفرّق بعضه من بعض كورق الفوّة وزهر أبيض وبزر صلب مستدير وسطه الى التجويف ما هو مثل السرة وقد يعلق هذا النبات بالثياب وقد يستعمله الرعاة مكان المصفاة فى تصفية اللبن من الشعر . عصارة ثمره وورقه بالشراب ينفع من نهش الرتيلا والأفعى شربا ومع الشحم يحلّل الخنازير ضمادا . (جـ و) هذه الحشيشة تجلو قليلا وتجفف وتلطف .

١٤٩ — بيخيون حشيشة السعال : (ذ جـ) وقد يسمى فيثيون وفيخيون وفاطرانيون[2] . ورقه كورق قِسّوس بل أعظم بست أو بسبع تنبت من الأصل ولون ما يلى أسفل الورق أبيض وما يلى أعلاه أخضر وفى الورق زوايا كثيرة وطول ساقه شبر . ويظهر له فى الربيع زهر أصفر ويسقط زهره وساقه

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(١) ابن البيطار : بلسكى ، غ : بلسخنى ، ت : بلسكنى

(٢) ت و غ فاطانون .

20 v.

سريعا ولذلك يظن به أنه لا زهر ولا ساق له . وله أصل دقيق وينبت فى مروج ومواضع مائية . ضماد ورقه مع العسل ينفع الأورام الحارة واستنشاق دخانه ينفع السعال وعسر النفس وطبيخه بالشراب يخرج الجنين الميت . (جَ وَ) سمى بهذا الاسم لنفعه السعال وهو حاد حريف باعتدال ولذلك يفجر الدبيلات . (ابن سينا) طريه يقلع الجرب المتقدح .

١٥٠ — بِرِنْجاسف ويقال برنجاسف وهو السويلا : (ذَ جَ) ارطاميسيا زهر البلنجاسف أكثر نباته فى السواحل. وهو نبات يستأنف الكينونة فى كل سنة وهو لاحق بثمنس شبيــه الأفسنتين ورقه أعظم من ورق الأفنتستين وفيه رطوبة تلبق باليد . ومنه صنف أنضر [١] أغصانا وأعظم ورقا من باقيه وله زهر صغار دقاق بيض ثقيلة الرائحة تظهر صيفا . ومن الناس من يسمى ارطاميسيا لنبات دقيق العيدان ساذج الساق صغير جدا ملآن زهرا شمعى اللون صغير يستأنف اللون فى كل سنة. (جَ وَ) [٢] وقد يسمون ارطاميسيا حشيشتين كلتاهما يسخنان يسيرا ويجففان ينفعان لقروح الأرحام . (ذ) . وكل هذه الأصناف يسخن ويلطف والجلوس فى طبيخها يدر الطمث ويخرج المشيمة والجنين. (غيره) الأصفر الزهر أقوى فعلا من الأبيض الزهر .

١٥١ — بابونج : (ذَ جَ) أنثاميس وقد يسمى لوقانثيمون وإيرانثيمون أى يزهر ربيعا وخامايميلون [٣] أى تفاح الأرض وميلانثيمون وخروسقاليس [٤] أى الذهبى وقاليس . وهو ثلاثة أصناف والفرق بينها إنما هو فى لون الزهر فقط وله أغصان طولها ذراع وأقل وفيها شُعَب دقاق وورق صغار دقاق ورؤوس مستديرة صغار فى باطن بعضها زهر أبيض وفى بعضها زهر ذهبى وفى الذى يظهر عنه من

(١) ت و غ : أقصر .
(٢) ت و غ : هذه الحروف ناقصة .
(٣) ت : خاميليون ، غ : خاماليون .
(٤) ت و غ : خروساليس .

الزهر على الرؤوس يظهر باستدارة حولها ولونه يكون أبيض وأصفر وفرفرى وهو فى قدر زهر السذاب وينبت فى أماكن خشنة وبالقرب من الطرق ويقلع فى الربيع ويجمع . وقوة هذا النبات وعروقه وزهره مسخنة ملطفة والفرفرى أقوى فى تفتيت الحصا والأبيض والأصفر أقوى فى أدرار البول . (جَ) ويسخن فى الأولى ويرخى ويحلل ويوسع المسام .

١٥٢ — بهار : هو الأقحوان الأصفر وبعضهم يسميه خبز الغراب والبهار عند العامة هو النرجس . (دَ جَ) بفثلمون أى عين البقر وهو نبات له ساق رخصة وورق كورق الرازيانج وزهر أصفر أكبر من زهر البابونج شبيهة بالعيون وينبت فى الدمن يحلل الأورام البلغمية بالقيروطى وإذا شرب به صاحب اليرقان فى الحمام بعد خروجه من الابزن حسن لونه وقياه ماء . (جَ وَ) ورده أكبر من ورد البابونج جدا وأكثر تحليلا منه . (ابن سينا) هو كاوچشم ورده أصفر اللون أحمر الوسط أسمن من ورد البابونج .

١٥٣ — بنفسج : (ذَ دَ)[1]

21 r.

إيون . ورقه أصغر من قسوس وأرق وأشد سوادا وليس بعيد الشبه منه . (ابن الجزار) هو كورق الخبازى وقضبانه تفترش على الأرض . (ذَ) ورقه أصغر من الخبيز وساقه يخرج من أصل عليه زهر فرفيرى طيب الرائحة جدا ينبت فى مواضع ظليلة خشنة . اذا شرب زهره بالماء ينفع من الخناق وصرع الصبيان وورقه يبرد ضمادا . (جَ وَ) جوهر ورقه مائى بارد قليلا .

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(١) ت وغ : ذ ج .

١٥٤ — بهْرامج : (فَ) هو الرَّنف [1] وهو الخلاّف البلخى . وهو ضربان ضرب منه مُشَرَّب شعر نَوره أحمر ومنه أخضر هياديب النور وكلاهما طيب الرائحة [2] . (لى) هذا هو الياسمين البرى ورقه أكبر من ورق الياسمين وقضبانه مربعة فى لونها فرفيريه تمتد حبالًا على الأرض وتتعلق بالشجر وله زهر أصفر من الياسمين أبيض فى عناقيد فى داخله هدب وهو طيب الرائحة جدا يظهر فى الصيف وله عروق فى غلظ الخنصر . ومنه صنف آخر دقيق الورق جدا وقضبانه فى رقة الحلفاء وكلا الصنفين حديد الطعم جدا يقرح اللسان ولذلك يسميه العوام عشبة النار والنار الباردة . وقد يستعمل أصل هذا النبات بدل الشيطرج و بدل الخربق. والصنف الصغير منه وهو الذى ذكره ذيوسقوريدس وسماه قلياطيس . (ذَ دَ) قلياطيس هو نبات يخرج أغصانا لونها الى الحمرة رقاقا حريف جدا مقرح اللسان ويلتف على الشجر كما يلتف ميلاخوس قوة ورقه محرقة حار فى أول الرابعة . (ذَ) شرب ثمره بالماء واذرومالى يسهل بلغما ومرّة .

١٥٥ — بَرْطانِيق : قيل هو البرتيقة الحلوة . (حنين) هو المسمى بستان أبْروز . (ذَ دَ) هو من النبات المستأنف كونه فى كل سنة له ورق كورق الحماض البرّى أشدّ سوادا منه وعليه زَغَبٌ و يقبض اللسان وساقه ليس بعظيم وأصله دقيق قصير يصلح لقروح الفم وورم اللوزتين . (جَ وَ) قابض يدمل الجراحات..

١٥٦ — بستان أبْروزُ : بستان افْروز فارسى معناه منوّر البستان وبالعربية يسمى عُرف الديك . (حنين والرازى) هو برطانيق .. (ابن جلجل) نبات يعلو فى قدره أكثر من ذراع له قضبان طوال عليها ورق كورق القثاء إلى الطول . وفى أطراف أغصانه وشائع لونها فيرى مليح

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(١) ت الرِّنف ، غ : الشريف .

(٢) أنظر كتاب المخصص لابن سيدا ج ١١ ص ١٤٣

المنظر وليس له رائحة عطرية . وأول من عرف هذا الدواء بالاندلس يونس الحرّانى . شرب عصارته ينفع من السم المسمى اقونيطون وهو النبال . (المجوسى) نوار بستان افروز يسكن حرارة المعدة بالسكنجبين والجلاب .

١٥٧ — بَنْتومه : هـذا نبات يعرب عندنا بهذا الاسم و يعرف أيضا بالرَّقْعة الفارسية وذرْق الطير وقد يسمى الخَرْقَطان و بالسريانية ماراثُونا وهو ينبت فى شجر الزيتون يخرج من نفس الشجرة وقد ينبت أيضا فى شجر الكمثرى . وله

21 v.

قضبان طوال معقده خضر وورق أخضر أقصر من ورق الزيتون وأعرض وأصلب ، وله ثمر أحمر لزج وفى داخله بزر . ومن أراد زراعته شق فى ساق شجرة الزيتون أو البلّوط أو نحوهما من الشجر وجعل فى جوف الشجر حبتين يفعل ذلك فى أول الربيع فانه ينبت . وشرب ورقة مع الطين الارمنى يجبر كسر العظام وشرب طبيخه يمنع السعال وطعمه قابض وفيه شىء من المرارة .

١٥٨ — بُلوغوناطُن : أى كثير الركب و يعرف بالفيورا . (دَ ذَ) هو ثمنس و ينبت فى الجبال وطوله أكثر من ذراع وورقه كورق الغار إلا أنه أعرض منه وأشد ملاسة وفى طعمه شىء يسير من طعم السفرجل أو الرمان مع شىء من قبض . وفى كل موضع ينبت منه الورق زهرا أبيض كثيرا جدا متفرع من موضع واحد . وله أصل أبيض طويل كثير العقد عليه زغب ثقيل الرائحة فى غلظ أصبع يقلع الكلف ضمادا . (جَ حَ) قوته وطعمه مركبان من القبض والحرافة وشىء من الكراهة والبشاعة ليس محيط به الصفات . فهو لذلك ليس [1] نافع فى أشياء كثيرة خلا أن قوما يستعملون أصله ضمادا فى مواضع الضرب وفى جلاء الكلف .

١٥٩ — بولامونيون : (ذَ دَ) وقد يسمى فيلاطاريون وخيليذُونامون وهو نبات أغصانه صغار دقاق متشعبة وورق أطول وأكبر من ورق السذاب يسيرا شبيه بورق الشَبَطْبَاط أو فودنج المـاء هو المسمى باليونانية قالامِنْتى وعلى أطرافه

(١) ت و غ : شىء .

شيء شبيه بالرؤوس المستديرة فيها بزر أسود . وأصله نحو من ذراع الى البياض شبيه بأصل أسطروثيون وهـو الكُنْدُس . وينبت فى جبال ومواضع خشنة .
(جَ حَ) ملطف مجفف ينفع عسر البول وعرق النساء وبالخل لوجع الطحال وللسعة العقرب تعليقا .

١٦٠ — بَنْطافلّون : معناه ذو خمس ورقاتٍ ويعرف بكف مريم .
(ذَ دَ) وقد يسمى بَنطابيطوس وبَنطاطومون وبَنْطاذَقْطولون وفسْوَذوساليُنون وقااللبياطَلون وكُسُولوافطون . وهو نبات له قضبان دقاق طولها نحو من شبر ورقه كورق النعنع خمس على كل قضيب وعسيرا ما يوجد أكثر من ذلك والورق مشرّف فى كل جانبٍ مثـل تشريف المنشار . وله زهر لونه الى البياض والصفرة وينبت فى أمكنة رطبـة وقريبة من الأنهار . ولون أصوله الى الحمرة وهو يستطيل وهو أغلظ من الخربق الأسود وهو كثير المنافع . (جَ حَ) أصله يجفف شديداً بلا حِدةٍ ولا حرافةٍ . (ذَ) طبيخه ينفع قروح الفم ووجع الأسنان مضمضة ومن خشونة الحلق غرغرة وعلل الخنـازير ضمادا . وقد يشرب الربّ بإذرومالى لحمّى الربع والغِبّ والصرع وقد يستعمل هذا النبات فى الهياكل للتطهّر .

١٦١ — بَرْدِيٌّ : (ابن جلجل) هو الخوص ويعـرفه المصريون بالفافير . وهـو نبات ينبت فى المياه وله ساق طويلة خضراء الى البياض عليـه قَنْقَلةٌ كبيرة ويتخذ من هذا النبات كاغد أبيض بمصر يسمى القراطيس فمتى

22 r.

قيـل فى الطب قرطاس محرق فانما يراد به هـذا الذى يكون من البردى . (لي) البردى صنفان منـه ذكر لا يخرج له نبات ومنه أنثى له سـاق وله قطن يقال له الطوط . وأما الفافير فزعم قوم انه غير هذا البردى المعروف عندنا لكنه صنف منه وذكروا أن الفافير أغلظ ساقا من البردى وله خوص كخوص البردى ونبـاته ملتف فى ساقه عليها ورق مثل هـدب الصنوبر الا أنه أقل . وقشر نبـاته قوى صلب يصنع منه ارسان وحبال قوية ويتخذ الناس هذا القشر لحمل الصابون وغيره . ومن

القافير خاصة يتخذ القراطيس . (ذ آ) فافيروس وهو البردى معروف منه يعمل القراطيس (ج ح) [1] نبات ليس يستعمل فى الطب متى أنقع وأحرق وهو مع الخل يدمل الجراحات . (ذ) أصله يغذوا غذاء طيبا يسيرا وقد يمتصه أهل مصر ويطرحون ثفله . ورماده ينفع القروح الخبيثة من أن تسعى فى الفم وغيره . (غيره) يطعم أصله الغض للطحول فينفعه نفعا بينا .

١٦٢ — بَنْج : هو السيكران المعروف عندنا بهذا الأسم والسيكران بالحقيقة غيره . (ذ د) إسقواميس وهو تمنس قضبانه غلاظ وأوراقه عراض صالحة الطول مشققة الأطراف الى السواد عليه زغب . وعلى القضبان ثمر كالجلنار فى شكله متفرق فى طول القضبان واحد بعد واحد منها مطبق بشيء كالترمس وهذا الثمر ملآن بزرا شبيها ببزر الخشخاش . وهو ثلاثة أصناف منه ما زهره فرفيرى وورقه سميلكس وبزره أسود وزهره كالجلنار مشوك . ومنه ما زهره تفاحى اللون وورقه وزهره ألين من الأول لون بزره الى الحمرة كبزر أروسمين . وهذان الصنفان رديان يجننان ويسبتان . والثالث وهو لين فى المجس فيه رطوبة تدبق باليد وعليه شيء فيما بين الغبار والزغب وزهره أبيض وكذلك بزره ، وينبت بالقرب من الشجر وفى الخرابات . فان لم يوجد هذا الصنف فليستعمل الأحمر البزر فأما الأسود فليرفض لشره . وعصارة هذا النبات أجود وأشد تسكينا للوجع من صمغه . (ج ح) الذى بزره أسود والذى بزره أحمر يقتلان ويجننان وأما الأبيض فهو الذى ينتفع به فى الطب وهو بارد فى الثالثة . (غيره) البنج الأبيض يقع فى الأدوية المسمنة بعقده الدم . وإذا دخن به الضرس الوجع فى أنبوب سكنه .

١٦٣ — بِزرقطونا : هو الأسفيوس بالفارسية . (ذ د) فسوليون وقد يسمى قونوقيفالون وأهل سقيليا يسمونه قروسطاليون وآخرون قونوموا .

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[1] ت و غ ، و .

وهو نبات ورقه كورق قورونو بس وعليه زغب وقضبان طولها نحو من شبر وابتداء جُمته من وسط النبات وفى أعلاه رأسان أو ثلاثة مستديرة فيها بزر كالبراغيث أسود صلب وهو المستعمل وينبت فى

22 v.

الأرض المحروثة . (جَ حَ) بارد فى الثانية معتدل فى الرطوبة واليبوسة . (ذَ) قوته مبردة اذا تضمد به مع الخل ودهن الورد والماء نفع من أوجاع المفاصل . (غيره) أجوده الكبير الممتلئ الذى يرسب فى الماء والمقلو منه قابض يعقل البطن وينفع من السحج وليتحفظ من سحقه فان الاكثار منه ربما قتل .

١٦٤ — بوصين[1] : هو الجوثران وبالبربرية برباشكه[2]. (ذَ دَ) فلومس هو صنفان أبيض وأسود . والأبيض منه أنثى وورقه كورق الكرنب الا أن عليه زغب وهو أعرض من ورق الكرنب وطول ساقه نحو من ذراع أو أكثر بيضاء وعليها زغب وزهر أبيض الى الصفرة وبزره أسود وأصله طويل عفص فى غلظ الأصبع وينبت فى الصحارى . ومنه ذكر ورقه أيضا أبيض الى الطول ماهو وهو أدق من ورق الأنثى وكذلك ساقه أدق من ساق الأنثى . وأما الصنف الأسود الورق فانه يخالف الأبيض وأعرض ورقا منه وهو يوافقه فى سائر الحالات . وفى النبات صنف آخر يسمى فلومس برّى له قضبان طوال لاحقة فى كبرها بقضبان الشجر وورقه كورق الالسفاقوس وحمل القضبان أشياء مستديرة كالفُلك مثل ما للفراسيون وزهر أصفر الى الذهبية . ومن النبات لون آخر يسمى فلومس وهو ثلاثة أصناف منها صنفان عليهما زغب وهما لاصقان بالأرض ولها ورق مستدير والصنف الثالث يسمى لوخنيطيس أى السراجية وقد يسمى ثرواليس أى الفتيلة . وله ثلاث ورقات أو أربع أو أكثر قليلا غلاظ عليها زغب

(١) ت و غ : كذلك .

(٢) ت و غ : برناشكه .

وفيها رطوبة تدبق باليد يعمل منها فتائل السراج . (ج ح) أصل النوعين الأولين في طعمه قبض . وقوة جميع الأصناف تجفف وتجلو جلاء معتدلا وتحلل وقد تحمر الشعر بالنوع الذهبي الزهر .

١٦٥ — باطاسيطيس : (ذ د) هو قضيب طوله نحو من ذراع وأكثر في غلظ الابهام وعليه ورق كالأجنحة الكبيرة وفى أعلا القضيب شيء ملتصق كأنه فطرة . اذا دق ورقه ناعما وضمد به نفع من القروح الخبيثة . (ج ح) يجفف فى الثالثة .

١٦٦ — بونيون : (ذ د) وقد يسمى أقطيون . وهو نبات ساقه مربعة صالحة الطول فى غلظ أصبع . وورقه كالكرفس الا أنه ألطف منه بكثير كورق الكزبره . وزهره كزهر الشبث وبزره طيب الرائحة أصغر من بزر البنج . (ج و) حار مدر للبول والطمث . (ذ) بزره يسخن ويدر ويخرج المشيمة ويصلح لوجع الطحال والكلى والمثانة . وأما بسوذ وبونيون (١) فهو ثمنس طوله نحو من ثلاثة أشبار وينبت فى جزيرة اقريطى ورقه كورق بونيون . (ج و) وكذلك بسوذ و بونيون (٢) إسخانه كاسخان بونيون .

١٦٧ — برسياوشان : هى شعر الجبار وكزبرة البئر . (ذ د) أذيانطون وقد يسمى فولوطريخون . ورقها كورق الكزبرة مشقق الأطراف وأغصانها سود صلبة دقاق طولها نحو من شبر . وليس لها ساق ولا زهر

23 r.

ولا ثمر . وله أصل لا ينتفع به وينبت فى أماكن ظليلة وحيطان المغائر الندية وعند المياه المجتمعة من سيلان العيون . (ج و) يجفف ويلطف ويحلل معتدل

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(١) ت : بسوذوبونيون ، غ : بسودو نونيون .

(٢) ت : بسويه ذونيون ، غ : بسو بوذيون .

بين الحرارة والبرودة يعين على نفث الاخلاط اللزجة من الصدر والرئة . (ذ) طبيخه ينفع الربو ووجع الطحال ويفتت الحجارة ويعقل البطن . (الرازى) قوته تذهب سريعا . (ابن ماسويه) ستة دراهم منه تسهل الصفراء من المعدة .

١٦٨ — بولوغالن : (ذ د) نبات طول نباته نحو من شبر وورقه كورق العدس عفص . وقيل ان شربه يكثر اللبن . (ج ح) ان كان يولد اللبن كما قيل فهو معتدل الحرارة والرطوبة .

١٦٩ — بوقنوقومن[1] : (ذ د) نبات ورقه كالجرجير أغلظ منه خشن حريف وساقه مربعة وزهره كزهر الباذروج وثمرته كبزر الكتاث . وأصله أسود فيه صفرة مستدير مثل تفاحة صغيرة ورائحته كرائحة التراب وينبت فى مواضع صخرية ، (ج ح) أصله وثمرته وورقه فيها قوة تحليل وجذب للسلى . وثمرته أقوى من ورقه وهما أقوى من الأصل وهو يسهل الصفراء وشرب ذرخمى من ثمرته تحدث أحلاما مشوشة .

١٧٠ — بسبايج : (ذ د) بولوبوذيون . ينبت فى الصخور التى عليها خضرة وفى ساق شجرة البلوط العتيقة على الأشنة . طولها نحو من شبر ويشبه النبات المسمى بطارس أى السرخس[2] وعلى أصله شىء من زغب وزغبه مشرف وليس تشريفه بدقيق مثل بطارس وللاصل شعب كأرجل السمك المسمى كثير الأرجل وغلظه كغلظ الخنصر واذا حك ظهر لون ما بداخله أخضر . وطعمه عفص مائل الى الحلاوة وهو أجوده . (ج ح) يجذب بغير لذع . (ذ)[3]

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(١) ت : بوقنوموں ، غ : بوقوموس .

(٢) ها هنا وضع الكلمات مخلوط فى ت ، وفى غ الكلام مشوش جدا : ايلا سرخوس بطاروس .

(٣) ناقص فى ت وغ .

وقد يعطى منه مطبوخا مع بعض الطيور والسمك أو السلق أو الملوخيا فيسهل مرة سوداء وبلغما من غير أن يمغص[١] أو يؤذى . (ابن ماسوية) وقد يطبخ بماء الشعير والشربة منه من درهم الى خمسة مطبوخا أو منقوعا . (المجوسى) أو مدقوقا ناعما مع سكر . (ابن سرابيون) أو مع ماء الشعير وقد يسهل الخلط اللزج المخاطى من المعدة والمفاصل ويغثى .

١٧١ — برنَج : (ابن وافد) حب صغير على قدر حب الماش منقط ببياض وسواد عديم الرائحة يؤتى به من الصين . وهو حار يابس فى الثالثة يسهل الديدان وحب القرع بقوة الشربة منه درهمان .

١٧٢ — برنَك كابلى : (ابن سينا) هو سندى أو هندى . وهو نوعان صغار غير مفتتة[٢] وكبار مفتتة والصغار أفضلها يسهل البلغم والديدان وحب القرع . (لى) أظنه البرنج المذكور .

١٧٣ — باجروجى : (الفلاحة) يرتفع مقدار ثلثة أذرع وينبت فى الأراضى اليابسة الصلبة ورقها كورق الكاكنج ويورد وردا خفيف الحمرة إذا سقط أخلف حبا بقدر الحمص وأصغر أسود لين . وقد يضمد بثمرها وورقها مع الخل للسلع والثواليل وثمرها يغثى ويقيء ويضر بقصبة الرئة ولا ينبغى أن يؤكل وورقها ينفع نفث الدم ولا ينبغى أن يشرب إلا مرة واحدة .

١٧٤ — بُهمَى : (دَ دَ) فونيكس . نبات ورقه كورق الشعير إلا أنه

23 v.

أقصر منه وأدق له سنبل كسنبل الشيلم وقضبان طولها نحو من ستة أصابع نابتة حول الأصل سبع سنبلات أو ثمان وينبت فى مواضع العمارة وعلى الأسطحة

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(١) ت : يمغض ، غ يمقض .

(٢) ت و غ مشققة

الجُدُد التطيين . واذا شرب بشراب قابض قطع الاسهال ونزف الدم . وقيل اذا شد بصوف مصبوغ بحمرة قانية وعلق على من به نزف الدم قطعه .

١٧٥ — بلّوط الأرض : (ابن عمران) عروق تشبه البلوط تكون تحت الأرض كالبلوطة وتطلع على وجه الأرض ورق عريض أخضر كورق السريس [1] الصغير . وينبت فى الرمال كثيرا ما يكون تحت عروق البشام وطعمه مر بحلاوة كطعم البلوط وفيه حرارة مفتح مدر .

١٧٦ — بلخْته : عشبة تنبت وتنبسط على الأرض أغصانها دقاق جدا وورقها غير دقاق لا يشبه الغصن كأنها دود يتصل أغصانها بعضها ببعض وتستدير دائرة فى الأرض ولها نويرة بيضاء فيها حمرة غرغرتها تسقط العلق .

١٧٧ — بَشْنه : نبات دقيق له أغصان كثيرة دقاق يخرج من أصل واحد يفترش على الأصخر وهى منابته طولها طول أصبع معقدة كنبات الشرشرة وخضرته تميل الى صفرة وبياض وورقه دقيق مدور كأن عليه زغبا رقيقا عليها دبقية كأنها عسل . وله زهر دقيق جدا أبيض يخلفه بزر كحب الكزبرة دقيق فى غلف صغار . وفى مذاقه مرارة وقبض يسير . شرب طبيخه يفتح السدود ويذهب النفخ .

١٧٨ — بَدَهَ [2] : عشبة ورقها كورق الكزبرة وأغصانها كثيرة خارجة من أصل واحد مائلة الى البياض ما هى منتنة الرائحة تنبت بين الزرع وهى تقلع الثآليل اذا تضمد بها .

١٧٩ — برَبينه : ويقال مربانه وبالبربرية اتموت وقد يسمى المجنون ويقال أنه العظلم . وهو نبات له ورق طويل مشرف صغير فيه خشونة شديدة

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(١) ت : الشريس ، غ السيرير ، وابن البيطار ١ — ١١١ : الشريش .

(٢) غ : بره ، ابن البيطار : بذذ .

الخضرة يضرب الى السواد والغبرة وله قضبان مربعة دقاق تعلو نحو الذراع فى أطرافها زهر دقيق نحو زهر الكزبرة على طول القضبان . ومنه صنف آخر شبيه بهذا إلا أنه أكبر ورقا وأغصانا يفترش على الأرض فى نباته وزهره أميل الى الفرفيرية وماء كلى الصنفين اذا شرب قيأ بلغما لزجا وهو منوم وينفع من الغشى .

١٨٠ — بشام : أوردناه مع البلسان .

١٨١ — بيش [1] : قيل أنه يسمى بالعجمية نباله وباليونانية طقسقون وقيل أنه ينبت بالصين ببلد يقال له هلاهل قرب السند . وهو نبات يعلو نحو الذراع وعليه ورق كورق الهندبا يأكلها أهل هلاهل غضا ويابسا . فاذا بعد عن السند مائة ذراع قتل آكله جميع الحيوان الا الفار والسلوى . (ابن سينا) حار يابس فى الغاية يذهب البرص طلاء وكذلك اذا شرب معجونا يقع فيه وكذلك ينفع من الجذام وشرب نصف درهم منه وأقل يقتل . وترياقه فارة البيش وهى الفارة التى تغتذى والسمانى أيضا يغتذى به ودواء المسك أيضا

24 r.

(١) من كتاب الصيدلة فى الطب لمحمد بن أحمد البيرونى (من النسخة الخطية المحفوظة فى دار الكتب فى بروصه (أناطولو) .

بيش : يسمى بالهندية بش منبته بأرض الهند فى جبال كشمير واسم الجبل الذى ينبت عليه شنكريستاجن فى حد كرناوه من أدشتان قصبة كشمير اليه ثمانون كروة أى أميالا وارتفاع الجبل ثلاثة أميال وشربته القاتلة نصف مثقال . وفى الكتب أن السمانى يأكله ويسمن عليه . (قال حبيش) يأكله فاره والسلوى كأنه شيء آخر عبر عنه بالبيش فان البيش يشبه السعد وأنواعه أسماء طبقات الهند وهى كالدر ومنكن وشرنك وهلاهل . فكالدر هو بيش أخضر ومنكن وهو شودر أسود وشرنك وهو برهمن أبيض قتال . وهلاهل وهى كشتر أصفر . قيل أوحاه قتلا بوزن شعيرة هو كالكوث أسود المكسر صلب وسطه الى البياض ما هو ذو ثلاثة قرون . وقيل أن البرهمن الأبيض يقتل منه دانق . و بيش حلو صلب غير مكتنز الى الحمرة يقتل منه دانقان وكشتر بين البياض والسواد صلب ووسط مكسره أبيض يحيط به سواد . وستودر بين الصفرة والبياض يقتل منه نصف درهم ، وجندال يقتل منه دانق.

يقاومه . (المسعودى) أصناف البيش ثلاثة أولهـا يسمى رسيس أى رأس التنين وهو البرهمى الأبيض يفسخ على المكان . والثانى يسمى القرون توجد فى سنبل الطيب عوده دقيق بقدر نصف أصبع عليه نقط بيض صغار كأنهـا سحيق الطالق أو الكافور . والثـالث يسمى التفه يصاب فى سـنبل الطيب أيضـا . طوله عقد أصبع كأنه أصـل القصب الفارسى معقد . وهو خبيث ويسق منه بخل للسعة العقرب قدر سمسمة[١] .

و (قال قسطا) هو أوحى السموم قتلا حتى ان رائحته ربمـا تصرع و يطلى عصير رطبه على النصول فتقتل . وهو ثلاثة الوان كلها قاتلة وأولها البرهمن الأبيض أخبثها غائلة يفسخ و يقتل على المكان . والثانى يشبه القرون يوجد فى سنبل الطيب عود كنصف أصبع دقيق منقط بنقط بيض صغار كسحيق الطلق له بصيص والثالث يصاب فى السنبل الطيب عود قـدر أصبع مثل القصب الفارسى عقد عقد وليس للبيش مع السنبل مجاوزة وىما ذكر هى السموم على حدة دون البيش . وقال (بشر الجزى) هو خمسة أنواع وأوحاها قتـلا الهلهل و يوجد فى السنبل شـبيه العنبر . يقتل منه وزن خردلة وربمـا قتل ريحه ولا ينفع فيه التر ياق . وأكثر ما يوجد فى السنبل الازب وهو ما كان فيه سـواد و بياض . قال (ابن مندويه كلاكوت يشبه السعد . وقال قوم فيه أنه يعجل القتل وربما يزول برأس قناة فيضر وقل ما يقع منه الى بلاد الاسـلام .

والذى يسم به الثياب يسمى كلكان يخيطها الخياط متلف الأصابع .

وذكر بعض الهنود أن هلاهل وكالكوت اسمان لمسمى واحد وهو نوع من البيش أسود الى الزنجارية والبرهمن الأبيض اسلمها ويشبه الوج وبه يقع التداوى . ثم ينحط اللون عن البياض ويزداد الشر الى أن يكون شبودر الأسود المكمر شرها ، وكلما كان أسمن وأقل غصونا وتشنجا فهو أشد عملا وشرا . أوقاته فى السق ما قارب طـلوع الشمس الى نصف النهار . وقيل فى الهلهل إنه يشبه القسط ولهـذا يكره ذواق القسط . ومنه نوع يسمى شرنك أى السعدى لشبهه به ومنبته فى جبل يسمى كاليدهار من حدود كشمير المتصلة بويهند . وقالت الصيادلة يوجد منه فى هلاوش وفى القسط وكذلك فى كروة و يعثر عليه بأن ينقع فى المـاء فيرسب البيش و يطفو كروه .

(١) ت : قرتالنون .

١٨٢ — بُسّد هو المرجان : (ذ ه) قوراليون [١] وقد يسمى ليثوذاندرون أى الشجر الحجرى ويقال إنه نبات بحرى ينبت فى جوف البحر وإنه اذا خرج من البحر ولقيه الهواء اشتدّ وتصلب . وقد يوجد كثيرا فى الجبل المسمى باخونون الذى عند مدينة سُورَاقوسا[٢] . وأجوده الأحمر الشبيه بالجوهر المسمى سيريقون وقد قيل إنه يشبه بلون الاسرنج أو بالمشبع اللون من الجوهر المسمى سَنِدقْس وهو فيما قيل الزنجفر سريع الانفراك فى جميع أجزائه متساوى الأجزاء رائحته كرائحة الطحلب البحرى كثير الأغصان شبيه فى شكله بشجر السليخة والجرىّ الرخو ردى . قوته قابضة مبردة باعتدال جالية تنفع نفعا بينا من نفث الدم . ومنه صنف آخر أسود فى شكل الشجرة أكثر أغصانا من الأول ورائحته أشدّ من رائحته . وقوته كقوته محرقة وتقطع الدمعة وتفرح القلب تنفع الطرش تقطيرا فى الأذن مع دهن البلسان .

١٨٣ — بُوَرَق : (ابن اسحق) البورق صنوف كثيرة منه الأرمنى الذى يؤتى به من أرمينية ومنه المسمى نطرون ويؤتى به من الواحات وهو ضربان أحمر وأبيض ويشبه الملح المعدنى ومذاقه بين الحموضة والملوحة . (ابن وافد) البورق أنواع كثيرة ومعادنه كثيرة فمنه ما يكون جاريا ثم يتحجر ومنه ما يكون فى معدنه حجرا ومنه أحمر ومنه أبيض وأغبر وألوانًا كثيرة . والنطرون وإن كان من جنس البورق فان له أفاعيل غير أفاعيل البورق . (الرازى) أصنافه كثيرة منه ورق الصاغة وهو الأبيض السبخىّ ومنه الزبدىّ وهو أجودها كلها ولونه ترابى أغبر ومنه بورق الغرب وهو يكون فى شجر الغرب . (ذ ه) نيطرون . يجب أن يختار منه الخفيف الوردى اللون والأبيض المثبت كأنه اسفنجة . وأما المسمى افرونيطرون ومعناه زَبَد النطرون وهو كما قيل الأرمنى فأجوده الخفيف ذوالصفائح السريع التفتت الفرفرى اللون الشبيه بالزبد اللذاع مثل الذى يؤتى به من مدينة

(١) ت و غ : كوراقوسا .
(٢) ت و غ : سقيدس .

فيلادَلْفيا وبعدها فى الجودة المصرىّ وقـد يكون أيضا بالموضع المسمى ماغنيسيا من بلاد قاريا . (جَ طَ) الفرق بين البورق الأبيض والافريقى المعروف بالزبدى وبين زبد البورق ان زبد البورق مجفّف ومنظره كمنظر دقيق الحنطة أبيض وليس هو مثل زهر الحجر المجلوب من اسّوس [1] رمادى اللون . وأما البورق الزبدى فليس كالدقيق متخلا بل جامد يجتمع وهو الذى يستعمله الناس فى كل

24 v.

يوم ليغسلوا به ابدانهم فى الحمام وقوته ليست تجلو الوسخ فقط بل تحلل أيضا الرطوبات الصديدة المحدثة للحكة ولولا أنه يغثى ويهيج القىء لكان بالغا فى تقطيع الاخلاط اللزجة وكان انسان يبرئ به من أكل الفُطْر . (غيره) البورق صنفان مخلوق ومصنوع والمخلوق هو المعدنى وهو صنفان أرمنى ومصرى . والأرمنى أجود ولم نره عندنا والمصرى صنفان صنف يسمى النطرون وهو ملح حجرى يضرب الى الحمرة وطعمه الى الملوحة فيه مرارة يسيرة تدل على شدة احتراقه . وضرب منه يعرف بورق الخبز لأنّ الخبازين بمصر يحلّونه بالماء ويغسلون ظاهر الخبز قبل خبزه فيكسبه بريقا . ودونها البورق المصنوع وهو المسمى عندنا النطارون وهو ملح حجرى قطّاع جَلاّء يتولد من مادة الزجاج ورطوبة الرصاص والقلىّ إذا خلط الزجاجون بعضه ببعض وأدخلوه النار وهو يسمى أيضا "التنكار" [2] .

١٨٤ — بُصاق القمر . ويسمى أيضا رغوة القمر وزَبَد القمر: (دَ هَ) ليثوس سالينيطيس أى حجر القمر وقد يسمى افروسالينون أى رغوة القمر . سمى بذلك لأنه يوجد بالليل فى زيادة نور القمر أجوده الأبيض المشفّ الخفيف الكائن فى بلاد العرب . وقد يحك ويسقى ما يحل منه لمن به صَرع وقد يلبسه النساء مكان التعويذ وتعليقه على الشجر يولد فيها الثمر . (جَ طَ) قد وثق الناس به انه ينفع من الصرع واما نحن فلم نمتحن ذلك ولم نخبره .

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(١) ت و غ : افسوس .

(٢) هذه الكلمة ناقصة من ت و غ .

١٨٥ — باذْزَهر : معناه بالفارسية مقاوم السمّ . (كتاب الأحجار) ينفع من السموم الحارة والباردة شربا وتعليقا . ومعادنه بالصين والهند والمشرق وله فى شبهه أحجار كثيرة ليست لها خاصيتُهُ كالقبورى [١] والمرمر حجر لا يخطو منه شيئا وقد يخالط به كثيرا . وهو حجر نفيس لين المجسه لينا غير مفرط دقيق المذاهب فى غاية النفع من السموم الحيوانية والنباتية ومن غض الهوام ولذعها ونهشها . إذا شرب منه مسحوقا منخولا وزن اثنتى عشرة شعيرة خاص من الموت ولو وضع فى فم المسموم ومضغه نفعه . (ابن جلجل) هو حجر إلى الصفرة وفيه خطوط بيض . وأخبرنى ابن الصقلى انه رآه فى جبال قرطبة وهو بالمشرق مشهور عند الملوك الأجلاء . (الرازى) هو حجر أصفر رخو لا طعم له رأيت منه مقامة عجيبة فى دفع ضرر البيش وكان الحجر الذى رأيته إلى الصفرة والبياض فى لون الخمر وكان مع ذلك متشظيا كشظايا الشبّ . (عطارد بن محمد) حجر البادْزَهر اذا وُضع قبالة الشمس عرق وسال منه الماء نفع من تَلَهّب الحمى والرمد اذا امتصّ عرقه.(غيره) ألوانه كثيرة أغبر وأصفر ومشرب شىء من الخضرة ومشرب ببياض ومنكّتُ . وأجوده الأصفر الصافى ثم الأغبر.

١٨٦ — بِزادِى : [٢] هو البجادِى أيضا . (كتاب الأحجار) معادنه بالمشرق و إذا أخرج من معدنه كان مظلما عديم الشعاع فاذا قطعه الصانع خرج حسنه وله بريق ومن تختّم

25 r.

بوزن عشرين شعيرة منه لم ير أحلاما رديئة ومن استقبل شعاع الشمس وأدْمَن النظر فى هذا الحجر نقص نور عينيه . وأجوده ما اشتدت حمرته وكثر بريقه وإذا مسح بشعر الرأس لقط من الأرض السفَا والتبن الصغار .

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(١) ت : القروى ، غ : القرون .

(٢) ت و غ : برادى .

١٨٧ — بارود : (١)حجر أسود يسميه المصريون ملح الصين . (ذ ه) أليثوس آسيوس . المختار منه الشبيه بلون القيسور وكان رخوا خفيفا سريع التفتت فيه عروق غائرة صفر . واما زهر هذا الحجر فهو ملح يتكون عليه دقيق ومنه أبيض ومنه قيسورى اللون إلى الصفرة وهو يلذع اللسان يسيرا . (ج ط) يسمى هـذا الحجر آسيوس وليس هـو صلبا لأنه يشبه فى لونه وقوامه الحجارة المتولدة فى قدور الحمامات . ويتكون عليه شيء كغبار حيطان الرحا ويسمى هذا الدواء زهر الحجر المجلوب من اسيوس وهو الصخرة التى فيها تتولد هذه الزهرة وملوحتها تدل بالحدس أن تولدها انما هى من الطلّ الذى يقع على تلك الصخرة من البحر ثم تجففه الشمس (ذ) قوة هـذا الحجر وزهره معفنة محلّلة للخراجات (٢) مع صمغ البطم أو الزفت والزهرة أقوى من الحجر وأفضل فى ابراء القروح العتيقة والنقرس . واذا ذُرّ فى حمام على الأبدان السمينة مكان النطرون أضمرها . (ابن رضـوان) يقوى البصر ويجلو البياض .

١٨٨ — بيْض : (ج) الذى ألفنـا وسهل علينا وجوده فهـو بيض الدجاج . فلسنا نحتاج معه إلى غيره . ومزاجه أبرد قليلا من البدن المعتدل ومجفّف تجفيفا لا لذع معه . (ذ ب) الصلب أكثر غذاء من النيمبْرشت وهـو من الرقيق (غيره) الأفضل بعد بيض الدجاج بيض التَدْرُج والدُرَّاج والقَبج والطَيهوُج . واما بيض البط فرديْ الخلط وأيبس البيض بيض الأوز والنعـام وجميع البيض يزيد فى الباه لا سيما بيض العصافير وهو كثير الغذاء وخاصـة بيض الحمام المقوى (٣) سريعا وبيض الحبارى خضاب جيـد للشعر وبيض السلحفاة البرية نافع جدا لسعال الصبيان والصرع وبيض الحرباء سم قاتل .

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(١) ت و غ : بارزد .

(٢) ت و غ : للجراحات .

(٣) ت و غ : القوى .

١٨٩ — بصاق : (ج ى) بصاق الممتلىء من الطعام أضعف من بصاق الجائع . والبصاق كله عامة ضد الحيوانات القاتلة للانسان بلسعها ونهشها عامة وهو يقتل العقرب .

١٩٠ — بول : (ج ى) قوة البول حادة حارة فيه جلاءٌ كثير . وبول الانسان أضعف من بول سائر الحيوان ما خلا بول الخنزير الخصى فانه مثله فى ضعفه . والاغتسال بالبول ينق النَمَشَ ويذهب الحزاز ويشفى السَّعْفَةَ وقوم شربوا بول الصبيان الأطفال وأبوال الرجال فنجوا من أمراض و بائية . وأبوال الدواب تخلط بأدوية وجع المفاصل فتنفع . (ذ ب) بول الانسان إذا شربه صاحبه وافق نهشة الأفعى والأدوية القتالة وابتداء الحَبَن والبول العتيق فهو أشدّ جلاء من الحديث للقروح الرطبة العارضة فى الرأس والحزاز والجرب والجدرى . وبول الثور يسكن وجع الأذن تقطيرا وبول الخنزير يفتت حصاة المثانة . وبول الحيوان المسمى لونغوس [١] وبوله يسمى لُنغُوريون ويقال إنه إذا بيل تحجر على المكان وهو كلام باطل . وإذا شرب مع الماء نفع

25 v.

المعدة وقروح الأمعاء وبول الحمار يبرئ من وجع الكلى . (غيره) بول الجمل شديد النفع من الَخشم لأنه يفتح سُدد المِصْفَى بقوة شديدة وهو مع بول الانسان نافع من الاستسقاء ويطلى بهما الطحال . واذا عقد بول الصبيان فى إناءٍ نحاسٍ نفع من البياض والجرب فى العين وإذا انعقد بول الكلب سود الشعر حسنا . والسكران اذا شرب بول جمل أفاق من ساعته . (ابن سينا) أن رجلا مطحولا رأى فى النوم أنه أُمر بشرب بَوله ثلاثٍ مرات كل يوم ففعل ذلك وعُوفى وجرّب فى غيره فوجد عجيبا .

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(١) ت : لعونوس ، غ : لفوفوس .

١٩١ — بول الإبل : هى أقراص يؤتى بها من اليمن وتُباع بالموسم بمكة يُعالج بها الجراحات الطرية بدمها فيلتصق بهـا ولا يقلع حتى يبرأ . وهو معروف عندهم مشهور . وتذكر أهل اليمن أن إبلهم ترعى فى فصـل السنة حشيشا يكون هناك خاصة فى ذلك الوقت فيأخذون أبوالهـا عند ذلك فيجففونها ويقرصونها وإنمـا يكون هذا باليمن فقط .

١٩٢ — بنت وَرْدان : هى الصراصر من الحاوى . (ذَ بَ) سيلفِى . جَوفها اذا سحق بزيتٍ وإذا طبخ بزيتٍ وقُطّر فى الأذن سكّن وجعها (غيره) بنات وردان قوية التحليل مُدرة تسقط الأجنه تنفع من النافض وسموم الهوام والبواسير ووجع الأرحام والكلى .

حرف الجيم

١٩٣ — جوز بُوَا . وهو جوز الطيب : (ابن سينا) هو جوز فى قدر العفص سهل المكسر دقيق القشر طيب الرائحة . (اسحق بن عمران) يؤتى به من الهند وأجوده الثقيل الرزين الدسم الأ مر . (غيره) طعمه كطعم القرنفل حار يابس فى الثانية يقوى البصر ويذهب البخر ويهضم الطعام ويقوى الكبد والطحال . وأما البسباسة فهى من قشر جوز بوا الرقيق الذى فوق القشر الغليظ وأجودها الحمراء وأدناها السوداء وهى قشور متراكمة دقاق يابسة الى حمرة وصفرة تحذو اللسان كالكبابة حارة يابسة فى الثانية قابضة محللة للنفخ .

١٩٤ — جُلنار . وهو الرمان الذكر ويسمى بالعربية المَظّ : (ذ آ) بالاوسطيون أصنافه كثيرة منه أبيض ومورد أحمر وخلقته كورد الرمان . وتستخرج عصارته كعصارة الهيوفقسطيذاس وهو قابض يصلح لكل ما يصلح له ذاك . (ج و) الجلنار وهو زهر الرّمان البرّى طعمه قوى القبض وقوته تجفّف وتبرد .

١٩٥ — جوز الزَنْج : هو ثمر فى قدر التفاح الى الطول قليلا مزوًّى متنسج فى داخله حبّ صغير كالقاقلّة الصغيرة مدحرج أصهب اللون حريّف الطعم يحو الى مذاق الخولنجان طيب الرائحة يجاب من صحارى البربر . وشرب دانق منه بماء حار ينفع من القوانج الريحى .

١٩٦ — جوز الشَرْك[1] : وهو جوز الحبشة وهو فى قدر جوز الأكل إلا أنه أطول قليلا وطرفاه محددان كأنه شكل ما صغر من أصول

(١) ت و غ جوز الشوك .

الخُنْثَى ولونه أحمر الى السواد قليلا وطعمه كطعم الزنجبيل وهو أشد حرافةً منه ورائحته طيبة . يؤتى به من بلاد السودان ويستعمل فى

26 r.

الجوارشات[١] المسخنة والذى يؤتى به من بلاد البربر دون هذا .

١٩٧ — جَوْز : (ج ز) القبض فى قشره الخارج وهو طرىّ لين وعصارته دواء ينفع من أدواء الفم والحنجرة . والجوز نفسه للطافته ودهانته يسرع الاستحالة الى المرار وخاصة ما عتق منه . (ذ آ) قاريا باسيليقا . عسر الهضم ردئ للمعدة يولّد المرار الأصفر ومع التين اليابس والسذاب باذزهر من الأدوية القتالة قبل وبعد . والجوز الرطب أقل ضررا للمعدة وهو أعذب وأحلى ولذلك يخلط بالثوم ليكسر حرافته .

١٩٨ — جِلَّوْز . وهو البُنْدُق : (ذ آ) قاريا فونطيقا . ضارّ للمعدة وإذا سحق وشرب بماء وعسل أبرأ من السعال . (ج ز) جنس من الجوز صغار فيه الجوهر الأرضى البارد أكثر ما فى الجوز الكبار . (غيره) يغذو الدماغ ويولّد الرياح فى البطن الأسفل .

١٩٩ — جُمَّيز : يسمى به التين الذكر ويسمى به صنف آخر من التين . (ذ آ) سيقوموروں أى التين الأحمق[٢] وإنما سمى بهذا الاسم لأنه ضعيف الطعم وهى شجرة كشجرة التين بها لبن كثير جدا وورقها كورق التوت وتثمر ثلاث مرات أو أربع فى السنة وليس يخرج ثمرها من فروع الأغصان كما يخرجه ثمر التين بل من سوقها كما يخرج التين للبرّى وهو أحلى من التين الفجّ وليس فيه بزر فى عظم بزر التين وليس ينضج دون أن يشرى بمخلب من حديد . وينبت كثيرا فى بلاد قاريا

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(١) ت وغ . جوارستات .

(٢) ت وغ : أحمر .

ءروذوس وفى المواضع التى تكثر فيها الحنطة . وقد ينتفع بثمره فى سنى الجَدْب لوجوده فى كل وقت وهو يسهل ردى للعدة واللبن المستخرج من ثمرته فى الربيع يلزق الجراح محلل للاورام . وقد يكون فى جزيرة قوبروس ثمر فى عظم الإجاص وهو أحلى منه يشبه الجميز فى سائر الأشياء .

٢٠٠ — جَوْذَر : (ابن جلجل) شجرة لا ارتفاع لها أغصانها حمر وهى غليظة الأصل ورقها كورق الكمّثرى البرى وله ثمر مدوّر أغبر اللون يؤكل فيقوى البطن وهذا النبات كثير بالزاب فى ناحية القَيْرَوان . (لى) هذه الشجرة معروفة ببلاد البربر بهذا الاسم ويستعملون جلده فى دباغ الجلود . وقال ابن جلجل إنه الغُبَيْرا وليس بها .

٢٠١ — جاوَرْس : (ابن واقد) هو صنف من الدُّخْن صغير الحب شديد القبض أغبر اللون . (ذ ب) قَنْخْرُوس . هو أقل غذاء من سائر الحبوب يعقل البطن ويدرّ البول . (ج ز) يبرّد فى الأولى ويجفّف فى أول الثالثة وفى آخر الثانية . اذا كمد به فى كيس صار أنفع من المغص .

٢٠٢ — جِرجِير : (الفلاحة) الجرجير صنفان بستانى وبرّى وكل واحد منهما صنفان . فأحد صنفى البستانى عريض الورق فستقى اللون ناقص الحرافة رخصٌ طيب والثانى ورقه رقاق فيها تشريف ودخول فى جوانبها كثير شديد الحرافة وأحد صنفى البرى ورقه كورق الخردل شديد الحرافة يجمع فى حزيران . (غيره) الجرجير البرّى هو الأَيْهُقان وهو صنفان أحدهما الحرشاء ويسميه بعضهم خردلا برّيا وهى شجرة تقوم على ساق خضراء ورقها كورق الفجل حرش ونوره صغير أصفر مجتمع يخلف الحبّ فى غلف[1] طوال وهى شديدة الحرافة يؤكل مع البقل والصنف الآخر له زهر أحمر . (أبو حنيفة) الأَيْهُقان هو الجرجير البرّى وهو عشبة تطول فى الشتاء ولها وردة حمراء وورق عريض يؤكل وفيه مرارة . (ذ ب)

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(١) هذه الكلمة ناقصة فى ت ، وفى غ : قضبان وهذا غلط من النساخ .

أوزومون ادمان أكله يحرك شهوة الجماع و بزره كذلك يدر البول و يهضم الطعام و يلين البطن . وقد يكون أيضا جرجير برّى فى غربى بلاد الخَزَر [١] ويستعمل أهلها بزره مكان الخردل . وهو أشد إدرارا للبول وأشد حرافة من البستانى .

٢٠٣ — جَعْفيل : [٢] يسمى حشيشة الأسد وأسد العدس وخانق الكرسنة لانه إذا نبت بين الورس والكرسنة جففهما . (ذَ بَ) أُورُوفَنْخى [٣] أى خانق الكرسنة سمى بذلك لأنه إذا نبت بين الحبوب أفسد ما قاربه . وقد يسمى قونومُوريون وأهل قبرس يسمونه ثورسيني . وهو قضيب مائل إلى الحمرة طوله نحو من شبرين ر بما كان أطول وله ورق فيه لزوجة وعليه زغب غضّ ولون زهره الى البياض ما هو والى الصفرة وغلظ أصله كغلظ الأصبع ينبت فى أوان يُبس الصيف . قد يسلق و يؤكل مثل الهِلْيَونْ ونياً أيضا . و يظن به أنه إذا أُلقى بين الحبوب أسرع نضجها عند الطبخ . (جَ حَ) يجفف و يبرّد فى الثانية .

٢٠٤ — جَنْطيانا : (اسحق بن عمران) الجنطيانا صنفان صنف هو شجرة تنبت فى الجبال وفى المواضع الباردة الندية الثلجية وهو الرومى وصنف هو الجُرْمقانى وهو كحُمّاض البقر وعِرقه اسود فيه شىء من مَرارة و ينبت أيضا فى المواضع الندية (لى) الجنطيانا الذى ذكرها ذيوسقوريذس هى الصنف الثانى من هذين والأول هو المستعمل عندنا بالأندلس أ كثر من الآخر و يكون فى جبل شلَيْر [١] وفى جهة سَرَقُسْطَه وهو أصل شجرة ذات أغصان وورق دقاق وأصل شديد المرارة وهو أشدّ مرارةً من الصنف الآخر وأقوى فعلاً . ويقال ان هـذا الصنف من الجنطيانا الفارسى المسمى بالفارسـية كوشاذ و بالرومى بَسِلسِقان [٢] وبعجميّة الأندلس

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(١) فى نص ابن البيطار : الخوز .

(٢) ت : جعيفل .

(٣) غ : أزروفقحى .

(٤) ت : شكير ، غ : شير .

(٥) ت : سلسفان ، غ : سلفسان .

بَشِلْشَكَه . وزعم ابن وافد ان البشلشكه هى الجنطيانا الذى ذكرها ديوسقوريدس وأخطأ فى ذلك . (ذ ج) جَنْطَيانِى . يقال إن أول من عرف هذا الدواء جنطيس ملك الروس وان اسم هذا الدواء اشتق من اسمه . وهو نبات ورقه فيما يلى أصله يشبه ورق الجوز أو ورق لِسان الحَمَل ولونه الى حمرة الدم والذى على الوسط والطرف من الورق مشرف تشريفا يسيرا وخاصّة فيما يلى الطرف . وله ساق جوفاء ملساء فى غلظ الأصبع فى طول زراعين ذات عقدٍ والورق متباعدٌ بعضه من بعضٍ عليها نور كثير وله ثمر فى اقماع عريض خفيف كثمر سُفَنْذوليون [١] وله أصل طويل غليظ شبيه بالزراوند وينبت فى الجبال الشامخة وفى الأفياء وفى أماكن الميـاه . (ج و) أصله قوى التلطيف والتنفيذ والجـلاء وتفتيح السدد وليس هـذا منه

27 r.

بعَجَب إذ كان فى غاية المرارة (ذ) مقدار دِرْهمى منه مع فلفل وسذاب ينفع من نهش الهوام ووجع الجنب والكبد والمعدة وفرزجته تخرج الجنين .

٢٠٥ — جَدْوار : (ابن سينا) هو قطع تشبه الزراوند وأدق منه ينبت مع البيش وهو ترياق السموم كلها . (ابن الكتّانى وغيره من المحدثين) قالوا إنه الأنْتُلَة والبيش الذى ينبت معها هى الطوارة وهى أصول كالبلّوط الصغير ينفع من السموم والقولنج، وينبت معها الطوارة وهى سم قاتل وحى[٢] و يتقارب نباتهما حتى يراهما الانسان فيظن أنهما من أصل واحد لشدة تقاربهما . وهذه الحشيشة السّمية حُلوةٌ والانتلة مُرةٌ وهى درياق عجيبٌ يقوم مقام درياق الفاروق . وربما رعت بعض الأغنام من الحشيشة السمية فاذا أحسّت بها ارتعت من الانتلة فتخلصت من . (لى) الانتله عندنا ضربان ضرب يعرف الانتله السوداء وهى التى ذكروا أنها الجدوار والأخرى هى البيضاء ويسميها بعض الشجارين الفيهق وسنذكرها فى حرف الفاء

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(١) ت : ستفلدوليون .

(٢) كذا فى ت ، وفى غ : يأبى .

فأما السـوداء فهى مدورة وخارجها أسود وداخلها أبيض الى الصفرة وورقها كورق كزبرة الثعلب وينبت معـه الطوارة وهى تشـبه به إلاّ أنهـا أميل الى الشربة .

٢٠٦ — جاوَشير : (ذَ جَ) فاناقاس إيرَقليون [١] . كثيرا ما ينبت فى بلاد بواطيا ومدينة فسُوفيس [٢] من بلاد ارقاذيا ويُغرس فى البسـاتين للغلّة الحاصلة من صمغها . ولها ورق خشن قريب من الأرض شديد الخضرة كورق التين مستدير مشرف ذو خمس شُرَف . وساقها كالكلخ طويلة وعليها زغب شبيه بالغبار أبيض وورق صغار جدا . وبزر طيب الرائحـة حاد وله عروق كثيرة متشعبة من أصل واحد بيض ثقيلة الرائحة عليها قشر غليظ مُرّ الطعم وقد ينبت فى قوريني [٣] من بلاد ليبوى وفى ماقذونيا . وقد يستخرج صنع هـذا النبات بأن يشقق الأصلى فى حدثان ظهور النبـات ولون الصمغة أبيض فاذا جفت كان ظاهرها زعفرانيا . ويجمع ما يسيل من الصمغة فى ورق مفروش وفى حفائر فى الأرض وقـد يُشقق أيضا الساق فى أيام الحصاد ويجمع ما يسيل من الصمغة على ما وصفناه . وأجود الصمغة أشـدها مرارة وباطنها أبيض وظاهرها زعفرانى يدبق باليد هيّن الانفراك وإذا ذيف انحل سريعا ثقيل الرائحة وقد يغش بوشَق وموم ويُمتحن بأن يدلك فى المـاء بالأصابع فان الخالص منه ينداف ويصير كاللبن . وقوّتها مُسخنة ملطفة مليّنة (ج حَ) أصل نبات الجاوشير يخفّف ويسخّن لكن أقل من الجاوشير نفسه . وفيـه جلاء وخصال يحتال اليها الدواء المنبت للحم فى الخراجات . وثمرته حارّة تدرّ الطمث .

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(١) ت و غ : أبو قليون .

(٢) ت : فوفنس ، غ : فوقس .

(٣) ت و غ : موق ، ابن البيطار : موقا .

٢٠٧ — جَزَر : (الفلاحة) الجزر البُستانى منه أحمر وهو أرطب وأطيب طعما ومنه أصفر وهو أغلظ وأخشن . فاما الجزر فانه ينبت بقرب المياه وربما ينبت فى القفار وذلك قليل فهو يشبه البستانى . (ذ ج) سطافيلينوس . نبات ورقه كورق الشاهترج الا انه أعرض منه وطعمه الى المرارة ما هو وله نبات مُستوٍ حادّ عليه اكليل كاكايل الشبث فيه زهر أبيض وفى وسط الزهر شىء يُشبه القطن لونه فرفيرى . وله أصل فى غلظ الأصبع

27 v.

نحو من شبر طيب الرائحة يوكل مطبوخا . (ج و) الجزر البرى يؤكل أقلّ مما [1] يزرع منه فى البساتين وهو أقوى من البستانى وقوتهما نافخة تحـرّك شهوة الجماع وبزر البرىّ مدر مُحدر للطمث . (الفلاحة) يتخذ منه شرابا يسكر والاكثار منه يخنق لمضرته بالحلق والصدر . والجـزر البرى يطرد الهـوام تعليقا على باب المنزل .

٢٠٨ — جَعْدة : (ذ ج) فوليون . منه جبلىٌّ يسمى طاوثريون وهو الذى نستعمله . وهو ثمنس صغير أبيض دقيق الورق طوله نحو من شبر وهو ملآن من البزر وعلى رأسه طرف صغير الى الاستدارة ما هو شبيه بالشعرة البيضاء . وهو نبات ثقيل الرائحة مع شىء من طيب ومنه صنف ثان وهو أعظم من هذا وأضعف رائحة . (ج ح) فى مذاقهـا مرارة وحدة يسيرة وهى تفتح السدود وتدر البول وتحدر الطمث وتدمل الضربات الكبار خاصة النوع الاكبر . وأما الأبيض فهـو أبلغ فى شفاء القروح الرديئة . (ذ) طبيخ النوعين ينفع من نهش الهوام والاستسقاء واليرقان و بالخل للطحال .

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(١) ت و غ : يؤكل ما .

٢٠٩ — جَمْسبَرَم : صنف من الرياحين يشبه القيصوم . (ابن سينا) مفتح مسكن للنفخ قوته كقوة الشيح .

٢١٠ — جَبْرَه : يسمى بالعجمية أو نِذَباجه أى جامع البَضْع . (ذ د) أولسطيون . يستأنف كونه فى كل سنة طوله ثلاثة أصابع أو أربع وله ورق وقضبان كورق وقضبان قُور نُو بسُ[١] أو الثيل قابضة .وأصله دقيق جدا كالشعر أبيض رائحته كرائحة الشراب وينبت فى تلالٍ . (ج ز) [٢] مجفف قابض يسقىَ بالشراب لفسخ العضل .

٢١١ —جار النهر: (ذ د) فوطامُوغيطون. سمى بذلك لأنه ينبت بقرب الأنهار والآجام . ورقه كورق السلق يظهر على الماء وعليه زغب . (ج ح) ي د ويقبض ويوافق الحكة والقروح الخبيثة والعتيقة .

٢١٢ — جَبْلَهَنْك : (ذ د) سيسامُويداس ويُسمِّيه الذين بأنِطيقُورا خَرْبقاً ويُشبه ايريغارون[٣] والسذاب وله ورق طويل وزهر أبيض وأصل لا ينتفع به وبزره كالسمسم مُرّ الطعم (ج ح) هذا شبيه بالخربق . (ذ) . شرب نصف أُكْسو بافُن[٤] من بزره مدقوقًا ناعما مع ماليقراطُن يُقيءُ بلغما ومدّة . وأما سيساموِيداس الصغير فهو نبات له قضبان طولها نحو من شبر ورقه كورق قُرونوبُس إلّا أنه أخشن منه وأصغر . فى أطراف القضبان رؤوس الى لون الفرفيرية وسطها أبيض فيه بزر كالسمسم لونه أحمر ياقوتى وله أصل دقيق . (أبو جريج) الجبلهنك صنفان أحمر وأصفر وهو بزر كالسمسم يقىء بقوة شديدة . (الرازى فى المنصورى) حارّ ربما قتل شاربه من شدة القئ . و(فى الأغذية)

(١) ت : قورنوس .
(٢) ت وغ : و .
(٣) ت وغ : أوريغارون .
(٤) ت : أكسو بافن ، غ أكسوبانن .

قد يحدث عن أكل السمك الذى مأواه الآجام الذى ينبت فيها الجبلهنك قيء عنيف مفرط . (مجهول) وقد يكون نبات آخر يسمى الجبلهنك فى الآجام ويشبه البردي وقشره هو التربد الأسود وينبت بالهند وبالصعيد[1] لكن الهنـدى أجود. وفى شرب درهم منه خطر يقيء ويسهل وبعضهم كان يبرىء به المفلوج .

٢١٣ — جاسوس : منهم من يسميه جبلهنك لقربه منه قوة وطبعا . (ذَ دَ) ميقون أفروذيس ومعناه الخشخاش الزَبَدى لأنه أبيض كالزبد وقد يسمى إيرقليا . طول ساقه نحو من شبر وورقه صغير

28 r.

جدا لشبهه بورق أسْطرثيون عند الورق ثمر أبيض . وهذا النبات كله أبيض ساقه وورقه وثمره كالزبد وأصله دقيق . وأُكْسُوبافُن منه بماليْقراطن يقيء خاصة المصروعين . (جَ زَ) بزره يسهل البلغم .

٢١٤ — جلبوب : هو لُبْلاب صغير . (ذَ دَ) لينوزوُسطيس وقد يسمى بَرْثانيون وعشبة عُطارِد . وهو نبات ورقه كورق الباذروج إلا أنه أصغر منه مائل الى ورق اللبْلاب وأغصانه ذات عقد فيها شعب كثيرة . وهو صنفان أنثى وذكر والأنثى منه ثمرها كالعناقيد كثيفة والذكر ورقه صغار وثمره صغيرة مستديرة مركبة بعضها ببعض حبتين حبتين شبيهة بالانثيين وطول النبات نحو من شـبر . (جَ زَ) زهره يلين البطن . (ذَ) طبيخ كلى الصنفين مسهل مرة ورطوبة واذا احتملت المرأة وشربت الذكر منهما حبلت بذكر والأنثى تحبل بالأنثى .

٢١٥ — جُلْبان : (ابن جلجل) هو من القطانى المأكولة له قصب مربعة ساقطة تنبسـط على الأرض وله ورق حوالى القضـبان الى الطول منحنية على القصب وله انوار الى الحمرة تخلفه مراود فيهـا حبّ مدوّر الى البياض وليس

(١) كذا فى ث و غ ، ولكن الصحيح : بالصغد .

بصحيح التدوير حلو يؤكل نيئا فى الربيع ثم يجف فيطبخ وهو حب كثير الرياح . ومنبته اذا رقد فيه أبطل حركة الراقد عليه لأن له خاصية مضرّة بالعصب اضرارا كثيرا وقد رأينا من بطل منه مشيه ثم لم يعد صحيحا . (الرازى) بارد يابس قليل الغذاء رديئه يولّد السوداء مضرّ بالعصب . (لى) ومن الجلبان صنف كبير مُرٌّ لا يؤكل الّا مطبوخا وقد يسمى البَسيلة [١] وباليونانية باسليقون ومنه برّى ورقه أكبر من ورق البستانى تميل خضرتها الى البياض وقضبانه خارجة من نفس ورقه ملصوقةً على جانبى القضبان متوازية فى طرف كل ورقة ثلاثة خيوط ملتفة كخيوط الكرم الا أنهـا أدق تلتف بمـا قرب منها[٢] من النبات . وزهره أبيض أو أحمر وله خراريب فيها حبّ أصغر من الترمس ، و إذا أكل ولدّ اللبن .

٢١٦ — جوز القَىّء ويسمّى جوز الرَّقع . يؤتى به من اليمن وقيل إنه ضرب من الحمّاض وهو أكبر من البندق قليلا لونه بين الصفرة والبياض فيه تحزيز شرب درهمين منه يقيء بلغما ورطوبة وينفع من الفالج واللقوة .

٢١٧ — جوز الكوثل [٣] ويسمى أقراص الملك ومنهم من يسميه جوز القيء . وهو دواء يؤتى به من الهند وهو كالشاهبلوط الصغير فى جرمه ولونه ونصف درهم منه يسهل ويقيء وهو غير مأمون .

٢١٨ — جَوْز ماثل ويقـال جوز ماثِم[٤] وجوز ماثا [٥] ويُعرف عنـدنا بشجرة المرقّد . وهو ثمنس يعلو نحو قعـدة الرجل وورقه كصغار ورق الباذنجان إلا أنها أمتن وأشدّ ملاسةً وله زهر كبير أبيض طوله أقل من شبر يشبه الأبواق الشامية . وهو فى براعم طوال خضر طويل المعاليق . وله ثمرة كالجوزة

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(١) كذا فى ت وفى غ : البسيلا .

(٢) ت : بما قريب منها ، غ : فيما ما قربها .

(٣) ت وغ : الكوبل .

(٤) ت : ماتهن ، غ : ماتمن .

(٥) ت وغ : ماتا .

خشنة القشر كأنها مشوكة داخلها حب كحبّ اللفّاح . (عيسى بن على) جوزماثا[١] يشبه جوز القيء وحبه كحبّ اللفــاح وقشره خشن وطعمه عذب د .. بارد فى

28 v.

الرابعة وقيراط منه فى النبيذ يسكر سكرا شديدا ومثقال منه يقتل . (الرازى) مُخَدِّرٌ وربمـا يقتل ويغثى ويقئ ويسكت .

٢١٩ — جوز القَطاة : نبات ينبت فى القيعان له ورق كورق البقلة الحمقاء إلّا أنه ألين وعليهـا زغب وقضبانه كثيرة خارجة من أصل واحد منبسطة على الأرض ليّنة معقدة وله أخْبِيَة كأَخْبِيَة الـكاكنج فى جوف كل خِبـاءٍ غُلُفٌ أصغر الى الطول فى جوفه حبّتان أصغر من الجلبان يؤكل وملؤه ينفع من القولنج .

٢٢٠ — جُفْت آفريد : (ابن سينا) شجرة صنوبرية[٢] الشكل تشبه اللوز فى رأسه كالشوكتين وربما انشقّ وانفتح . وهو يزيد فى الباه جدًّا .

٢٢١ — جُبْرُس[٣] : (قسطا بن لوقا) هو الفستق المصرى وهو شيء ينبت فى المياه القائمــة وله ساق جوفاء رقيقة على طرفها شيء كرأس القدح شكلا لونه بين الخضرة والسواد فيــه ثقب مستديرة فى كل ثقبة منها حبة مستديرة[٤] وعليه قشر رقيق كما على الشاهبلوط . وهذا النبات لا يصلح لغير الأكل .

٢٢٢ — جوز جُنْدُم ويقال جوز كُنْدُم وجوز عنْدم وهى تُربة العسل وزهر الحجر وقد يسمّى خرء الحمام . وهى تربة سبخة بيضاء الى الصفرة يؤتى بهـا من برقــة وخراسان وليست بتربة برقة كما يزعم . (روفس) مُبرِّد مجفف ملطّف .

(١) ت و غ : ماثا .

(٢) فى نص قانون ابن سينا (طبع بولاق الجزء الأول صحيفة ٢٨٥) : شيء صنوبرى .

(٣) كذا فى ت . وفى غ : جبروس ، وفى جامع ابن البيطار (ج ١ ص ١٧٩) : جيوس .

(٤) هذه الجمله ناقصة فى النسختين (ت و غ) وقد كملناها من نص ابن البيطار .

(غيره) حارّة رطبة . (ابن سينا) يبرئ القوباء ويطفئ الحرارة ويهيّج الباه . (وقال آخر) اذا طرح ربعُ كيلجة منها فى عشرة أرطال من عسل وأربعين رطلا من ماءٍ حار وضرب ناعمًا وغُطّى صار شرابا من ساعته .

٢٢٣ — جَزْع : حجر معروف وهو صنفان يمانى وصينىّ . يقال إن من تختم به كثرت همومه ورأى أحلاما مفزعةً وسحيقه يجلو الياقوت ويسهل الولادة تعليقا .

٢٢٤ — جَمَست : الأحمر الياقوتى من شرب فى اناءٍ منه لن يسكر .

٢٢٥ — جِبْسِين : هو حجر يوجد فى معادن الجَصّ صفائحى منه أبيضُ مشفٌّ ومنه أحمر ومنه ممتزج منهما وقيل انما هو الجص بعينه . (ج طَ) مجفف ومغرى ومسدّد وملحج . (ذَ هَ) يقطع نزف الدم اذا شرب قتل بالخنق .

٢٢٦ — جُبْن : (جَ فى الأغذية) أفضل الجبن الحديث وخاصةً المتخذ من لبن حامض وهو ألذ من غيره وأجودها للعدة وأقلها عسر انهضام وليس برديء الخلط . والعتيق حاد معطش مولد للحصاة . (ذَ بَ) الجبن الرطب اذا أكل بلا ملح كان مغذيا طيب الرائحة والطعم جيد للعــدة هين السلوك الى الأعضاء ويزيد فى اللحم ويلين البطن باعتدال . واذا طبخ وعصر وشوى عقل البطن وماؤه يغــذو الكلاب جدا. والجبن المعمول من لبن الخيل وهو المسمّى ايفاقى زهم كثير الغذاء . منهم من يسمى إنفحة الخيل ايفاقى . (غيره) الجبن المتخذ بالطبخ بالنار خير من المتخذ بالأنفحة لأنه يكتسب من الأنفحة حدةً . وفى الأقط وهو الجبن المتخذ من الرايب خاصة قوة محللة .

٢٢٧ — جُلود : (ج يا) [١] جلد الكبش اذا أخذ من ساعته حين يسلخ فوضع على موضع الضرب ممن يُجلد نفعه أكثر من كل شيء . (ذ ب) القنفذ الذى اذا أحرق جلده وخلط بزيت رطب ولطخ داء الثعلب وافقه . (غيره) جلد المعز والجدى ساعة يُسلخ اذا وُضع على لسع الحيّة أخرج السمّ . وجلد الذئب ينفع من الصرع واذا شدّ

29 r.

على البطن أطلق القولنج . وجلد ابن آوى اذا علّق على من به عضة الكلب الكَلِب لم يخف من الماء .

٢٢٨ — جُنْد بادَسْتَر : (ذ ب) قاسطوروس هو السَمّور وهو حيوان يصلح أن يكون فى البرّ والبحر وأكثره فى الماء ويغتذى السمك والسراطين وخصاه هو الجندباذستر ينفع من نهش الهوام ويهيّج العطاس ويدر الطمث ويخرج الجنين والمشيمة . وباطل ما يقال أن هذا الحيوان اذا طرِد وطلب يقلع خُصاه ويطرحها لأنه محال أن يصل اليها وذلك لأنها لاصقة مثل خصى الخنزير . وينبغى أن يشقّ الجلد ويخرج الخصى مع الجاب الذى يحوى رطوبة تشبه العسل ويجفّف ويخزن . (ج يا) [١] يسخن ويجفّف ويلطف وينفع فى أمراض العصب .

٢٢٩ — جِرّى : ويقال هو السلور بلغة أهل الشام ويقال هو الأنكليس ويسمى بالفارسية مارماهى . وأما ابن جاجل فقال الجريث حوت طويل له خرطوم طويل أملس بلا قشر يكون فى نيل مصر كثيرا . وقيل أنه السلباح . وذلك خطأ . (ج ى) قوة لحمه جاذبة . (ذ ب) سلورس وهو الجرى طريه يغذو ويلين البطن وينقى الرئة ويجود الصوت . واذا تضمد بلحم المملوح منه أخرج السلاء من عمق البدن .

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(١) ت وغ وابن البيطار : ى وهذا غلط .

٢٣٠ — جَراد : (ذَ بَ) أقريذاس و اذا تبخر بها النساء نفعت من عسر البول . (غيره) أكله يابسا محرق للدم والجراد الطويل العتيق[1] اذا عُلّق على من به حمّى الربع نفعه .

٢٣١ — جُخْدُب : وهو الطويل من الجراد . اذا أحرق فى قدر وذرّ رماده على الآكلة نفعها .

(١) لعل العنق .

COMMENTARY

IB. quoted this short paragraph of Gh. without saying what kind of drug was *gukhdhub*; therefore LECLERC was not able to identify it. DAMÎRÎ (*Jayakar* I, 403) says about it: " *Al-gukhdab* الجخدب, plural *gakhâdib* جخادب: a species of locust of green colour, having long legs, etc." We think that it is the long-chested or long-necked locust mentioned in the above chapter, and probably identical with *Mantis religiosa L.*, an orthopterous locust-like insect, which is frequent in the Mediterranean regions. In Egypt it is called *abû silâh* ابو سلاح (" armigerous ") on account of its large spinous forelegs with which it catches its prey.

As to SYNONYMS we were not able to find any in the dictionaries of medieval Oriental languages. The name for *Mantis religiosa* is in English: praying mantis, in French: mante prêcheuse, in German: Gottesanbeterin.

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230. Garâd جراد, *Locust.*

(Lecl. No. 467).

Diosc. II (52): ἀκρίδες (*akrides*). If used as a fumigation by women it is useful against dysmicturition.

Another Author: Eating locusts burns the blood. The locust with a long chest [1], if suspended round (the neck of) a sufferer from quartan fever, is useful.

COMMENTARY

The locust meant by Diosurides is probably *Acridium Aegyptium L.* or the wandering locust (*Pachytylus migratorius L.*), because he said that it was a common food of the inhabitants of Leptis (now Tripolitania) in North Africa. Even in our days it is still eaten by the Bedouins, particularly in times of dearth. The long-necked or long-chested kind is probably identical with the following (*gukhdhub* جخذب, *Mantis religiosa* ?).

All the Arabic authors speak in detail of the medicinal properties of locusts. Dâwûd (I, 206); *e.g.*, declares the yellow and fat locust to be the most useful remedy, combined with myrtle, against dropsy and leprosy; its feet when burnt and sprinkled on warts and skin diseases, cure them.

Synonyms: Gr.: ἀκρίς (*akrîs*); Lat.: locusta; Ar.: *garâd* جراد; Pers.: *malakh* ملخ, *dabâ* دبا (Handjéri, Vullers); Turk.: *chekirgé* چكرگه; Egypt.: [hieroglyphs] *s'nhm*; Copt.: ⲥⲁⲛⲛⲉϩ; [2] Eng.: locust; Fr.: sauterelle, criquet; Germ.: Heuschrecke, Grille;

231. Gukhdhub جخذب *Praying Mantis* ? (Mantis religiosa ?).

(Lecl. No. 471).

It is the long kind of locust. If burnt in an earthen-pot and its ashes sprinkled on a slough (*âkla* آكلة) it is useful.

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[1] Both our MSS. read "the long old" عتيق locust.; IB's reading as given above is probably more correct.

[2] In Hebrew סלעם *sal'am*

in the lakes *Manzala* منزلة and *Burullus* برلس. The best known kind of sheat in the Nile is the *Silurus electricus* (*ra''âd* رعاد).

Idrîsî (p. 94) says that the cat-fish (*girrî*) is called in Spain *silbâg* سلباج and in Morocco *nûn* نون (*i.e.* " fish "), and that it has no scales, and no finches. So his description again refers to the eel.

Dâwûd (I, 205 foll.) gives a good description of *girrî* as a smooth long fish with a wide mouth ; he thinks that it is called in Egypt *qarmût* قرموط and in Syria *sillawr*. This is quite correct, as *qarmût* is still to-day the name of the eel-shaped cat-fish (*Clarias* or *Silurus anguillaris*) of the Nile.

Synonyms :

(*a*) *Silurus*, sheat-fish :

Gr. : σίλουρος (*síluros*, Diosc., Galen) ; Lat. : silurus (Pliny) ; Copt. : ϣⲉⲗⲃⲁⲩ,ϫⲉⲗϥⲁⲩ (*shilbeh*). Ar. : *girrî*, *girrîth* جرى، جريث (Ibn Gulgul), *sillawr* سلور، صلور (Sharaf), *silbâg* سلباج (Spain, Idrîsî), *nûn* نون (Maghrib, Idrîsî) ; Pers. : same names and *usbula* اسبله, *îbâla* ايباله (both doubtful, Naficy, I, 819) ; Turk. : *tatli su yilan balighi* طاتلى سو يلان باليغى (" sweet-water snake-fish," *i.e.* fresh-water eel, Samy) ; Eng. : silurus, sheat-fish, shad ; Fr. : silure-chat ; Germ. : Wels, Nilwels.

(*b*) *Anguilla*, eel. :

Gr. : ἔγχελυς ἐγχελύς (*engchelýs*) ; Lat. : anguilla ; Ar. : *girrî*, *girrîth* جرى، جريث (Gh., Damîrî, Dâwûd), *ankalîs* انكليس (Gh. Damîrî), *hankalîz* حنكليز, *'ankalîz* عنقليز (Syria, Berggr.), *sinnâr al-hût* سنار الحوت (ibid.), *samak hayya* سمك حيه (ibid.), *hanash* حنش, *samak tha'bân* سمك ثعبان, *hayyat al-bahr* حية البحر, (Sharaf) [1], *qarmût* قرموط (Egypt, Dâwûd), *silbâh* سلباح (Dozy) ; Pers. : *mâr-mâhi* مارماهى, *angilîs* انكليس ; Turk. : *yilân balighi* يلان باليغى [2] ; Eng. : eel ; Fr. : anguille ; Germ. : Aal.

[1 & 2] The meaning of most of these names is : water-serpent, sea-serpent, snake fish, etc.)

IBN GULGUL said that *al-girrîth* الجريث is a long fish with a long smooth snout. It has no scales and is common in the waters of the Nile of Egypt. It is said that it is *as-silbâh* السلباح, but this is a mistake.

GALEN X (XII, 365) (¹) : The faculty of its flesh is attractive.

DIOSC. II (27) : Σίλουρος (*síluros*), *i.e. al-girrî*, if fresh, is nourishing and purging ; it purifies the lungs and beautifies the voice. If the salted kind of it is applied to the body, it extracts its thorns from deep tissues.

COMMENTARY

There is a confusion in this chapter between at least three species of fish. The description of DIOSCURIDES refers to the sheat-fish or shad (*Silurus Glanis L.*), a European fish ; that of IBN GULGUL to *ash-shilba* الشلبة = ϣⲉⲗⲃⲁⲧ a Nile-fish which has a curved trunk-like snout.(²) The names given by Gh. refer to the eel (*Anguilla vulgaris L.*). It is, however, evident that IBN GULGUL applies the name *girrî* or *girrîth* to *ash-shilba*, while Gh. and all the later Arabic authors take it as a name of the eel and a synonym with *ankalîs*, *silbâh* and the Persian *mâr-mâhî* (" snake-fish "). DAMÎRÎ (JAYAKAR I, 81 and 424) gives these and other names as synonyms with *girrî* or *girrîth*.(³) The name *sillawr*, obviously derived from Greek *síluros* was formerly used in Egypt and Syria to designate the eel ; in Syria its name is still *sinnâr al-hût* صنارالحوت (" Silurus-fish, " BERGGREN, p. 43). In Egypt, however, there are fifteen different species of Silurus living in the Nile, while *Anguilla vulgaris* more frequently occurs in the stagnant salty lakes of Lower Egypt, especially

(¹) There is no special chapter on *Silurus* in GALEN'S works.

(²) Compare A. BOULLENGER, *The Fishes of the Nile* (in Anderson's *Zoology of Egypt*), London, 1907, 2 vols. in-40.

The Arabic names are well explained in AMÎN MA'LOUF, *An Arabic Zoological Dictionary* (Al-Muktataf Press, Cairo, 1932), pp. II, 65, 95, 229 and 266.

DAMÎRÎ (JAYAKAR I, 81 and 424) confuses *girrî*, *girrîth* and *ankalîs*, the names, for the eel and the cat-fish, in the same manner as GHÂFIQÎ.

(³) Traces of this name survive in the name of another fish of the *genus Siluridae* the Nile-fish *Labeo niloticus* which is called in the Fayyûm-District *al-Garriyya* الجرية.

is responsible for the characteristic empyreumatic and disagreeable odour of the drug. The Russian castoreum, in former times the best, and very much used in the treatment of hysteria and dysmenorrhoea, is now rarely imported and has been replaced by the Canadian drug (1). Adulteration of the costly substance was very frequent.

The Arabic and Persian literature on castoreum is enormous, and it is not possible to translate even a small part of it. The Arabic name *gundbâdastar* جند بادستر is a corruption of Persian *gund* كند (*i.e.* testicle) and *bî-dastar* بى دستر (*i.e.* beaver).

Synonyms : Gr. : κάστορος ὄρχις (*kástoros órchis*, *i.e.* "beaver's testicle," Diosc.), καστόριον (*kastórion*, *Galen*) ; Lat. : castoreum, testis fibrinus (Pliny) ; Ar. : *gund-bâdastar* جند بادستر, *gund-bîdastar* جندبيدستر (2), *khusâ al-qunduz* خصى القندز, *khusâ al-qudâ'a* خصى القضاعة (Handjéri I, 346), *khusâ kalb al-mâ'* خصى كلب الماء ("testicle of the water dog") (Maim.), *khusiyat al-bahr* خصية البحر ("sea-testicle," Vullers II, 1036), *khusiyat al-gardh* خصية الجرذ (Sharaf) ; *al-fâhisha* الفاحشة ("the obscene") and *al-muntina* المنتنة ("the stinknig") were popular names in the Maghrib (Maimonides) ; Pers. : *kund-bîdastar* كندى دستر, *gund-i-bîdastar* كندبيدستر, *jundbidastar* جندبيدستر, *jund-bîdast* جندبيدست (Vullers I, 532), *khâya-i-sag-i-âbî* خايه سك ابى ("testicle of the water-dog"), *khazmiyân* خزميان (Vullers I, 688), *fâjisha* فاجشه (Vullers II, 630, evident corruption of *al-fâhisha* الفاحشة Maim.) ; Turk. : same names and *qunduz khayesi* قوندوزخايه سى (Avni, Handjéri, Samy) ; Eng. : castoreum ; Fr. : castoréum. ; Germ. : Bibergeil.

229. Girrî جرّى, *Eel* or *Sheat-Fish* (Anguilla or Silurus). (Lecl. No. 475).

It is supposed to be *as-sillawr* السلور in the dialect of the Syrians, or *al-ankalîs* الانكليس. Its name in Persian is *mâr-mâhi* مار ماهى.

(1) *Castoreum moscoviticum, sibericum et canadense.*

(2) Instead of *dal* د, frequently spelled with *dhâl* ذ.

the water and feeds on fish and crawfish. Its testicles are the castor, which is useful against the bite of (poisonous) animals, provokes sneezing, is emmenagogue and expels the embryo and placenta. It is wrong to say that (this animal), if pursued, removes his own testicles and throws them away, as it is impossible that he could reach them because they are attached (to his body), like those of the pig. It is necessary to incise the skin in order to remove the testicles with their membrane which contains a liquid resembling honey; it is then dried and stored.

GALEN XI (XII, 337 foll.) : it is heating, desiccative, sedative and useful for nervous diseases.

COMMENTARY

This chapter was much abriged by BH. IB gives the full length of the quotations from DIOSCURIDES and GALEN, and many passages from the old Arabic authors. The zoological errors of the old medical writers who confused the beaver with the common otter and even with the sable, and who thought castor to consist of the testicles of the animal, were not corrected before the XVth century (1).

The drug *castor* consists of the dried preputial follicles of the beaver (*Castor fiber L.*) who lives (besides Canada) mostly in western Russia and Siberia (2). The large double glands contain, in the fresh state, a whitish or yellowish creamy substance, but as they dry this becomes dark in colour. The dried glands are brownish or greyish, pear-shaped and from about eight to ten centimetres long (3). Their weight is from 60 to 120 grams. Because they are frequently connected in pairs, heavy and solid, they have been considered by the old pharmacologists as testicles. They contain a resinous matter and a volatile oil, which latter

(1) By the French pharmacologist G. RONDELETIUS of Montpellier (*Methodus de Materia Medicinali*, etc.; Patavii, 1556).

(2) The animal lives on vegetable matter only.

(3) This description is abstracted from the fourth edition of H. G. GREENISH's *Text Book of Materia Medica* (London, 1924) p. 551.

227. Gulûd جلود, *Hides*.

(LECL. No. 497).

GALEN XI (XII, 342): The skin of a ram, if taken immediately after skinning and put on the place of a contusion, is much more useful than any other treatment.

DIOSC. II (2): If the skin of the land-urchin (hedgehog) is burned, mixed with fresh oil and applied to alopecia (*dâ' ath-tha'lab* داء الثعلب) it cures it.

ANOTHER AUTHOR: The hide of goats and kids, if skinned and placed fresh on the place of a snake-bite extracts the poison. The skin of a wolf is useful for epilepsy, and if bound (*fol* 29 *r*) on the abdomen it relieves colic. If the skin of a jackal (*ibn âwâ* ابن آوى) is suspended on (round the neck of) a person bitten by a rabid dog, he would not shun water (not become hydrophobic).

COMMENTARY

The medical application of hides and skins was discussed in detail by all the old authors. These discussions are full of superstitions and are of more interest to the history of Superstition than to that of Medicine. We find it, therefore, unnecessary to refer to these beliefs here.

SYNONYMS: Gr.: δέρμα (*dérma*); Lat.: pellis; Ar.: *gild* جلد, plur. *gulûd* جلود; Pers.: *pôst* پوست; Turk.: *deri* درى; Egypt.: [hieroglyphs] ; *n m*; Copt.: ⲁⲛⲟⲙ (Ægyp. Worterbuch, *inf. verbum*). Eng.: skin, hide; Fr.: peau; Germ.: Haut.

228. Gundbâdhastar جند باذستر, *Castor*.

(LECL. No. 516).

DIOSC. (II, 24): κάστορος (*kâstoros*) [ὄρχις (*órchis*)] [1] it is the beaver [2], an amphibian animal. It lives, however, longer in

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[1] The last word is missing in the Arabic text.

[2] In the text *as-sammûr* السمور which designates in reality the sable (*Mustela zibellina*, see JAYAKAR, I, 80) while a Persian-Arabic name of the beaver is *al-qunduz* القندز.

DIOSC. (II, 71) : Fresh cheese when eaten without salt is nourishing, of good odour and taste, healthy to the stomach, easily assimilable by the organs, increases the flesh and is moderately laxative. If boiled, expressed and fried, it constipates the bowels (diarrhoea). Its whey is very nourishing to dogs. The cheese made from milk of mares, called ἱππάκη (*hippákê*) is of rancid smell but very nutritive. Some people call the rennet of mares *hippâkê*.

ANOTHER AUTHOR : The cheese which is prepared by boiling on fire is more healthy than that prepared with rennets, because that from the rennets is acrid. Concerning *al-aqat* الأقط, which is the cheese prepared with sour milk, it has the specific quality of a resolvent.

COMMENTARY

Nearly all the Greek and Arabic medical authors wrote long chapters on the medicinal and alimentary properties of the different kinds of cheese. It would be too long to mention here even a fraction of them. IB., in his chapter, gives a supplementary note on the application of boiled cheese for acute arthritis, according to GALEN and AT-TAMÎMÎ. IDRÎSÎ p. (95), as usual, records synonyms in ten languages, *e.g.* " Latin " *qashiû* (caseo), " Frankish " *furmaj* (fromage) and " Modern Greek " (*ighrîqî* اغريقى) *tiri* (τυρί).

DÂWÛD (I, 202) mentions that cheese was prepared not only with rennets, but also with other coagulants, like carobs (*kharnûb* خرنوب) and saffron (*qurtum* قرطم).

SYNONYMS : Gr. : τυρός (*tyrós*) ; Lat. : caseus ; Ar. : *gubn* جبن ; Pers. and Turk. : *panîr*, *penir* پنير ; Eng. : cheese ; Fr. : fromage ; Germ. : Käse ; Copt. : ϩⲁⲗⲟⲙ (*halom*), which is a common word for cheese used in the vernacular Arabic of Egypt today (*ḥalûm* حلوم).

It is of interest to note that ABÛ MANSÛR (p. 180) recommended gypsum "for fractures and wounds," whereof ACHUNDOW (p. 317) concluded that this might be the first mention of the plaster-bandage for fractures. But we think it more likely to have been used as a plaster only, as at that period no other treatment for fractures was known but extension and application of poultices.

The Arabic name *gibsîn* جبسين is derived from the Græco-Syriac *gubsîn* ܓܘܒܣܝܢ (*see* BROCKELMANN, p. 129 *a*.).

SYNONYMS : Gr. : γύψος (*gýpsos*), ἀλαβαστρίτης λίθος (*alabastrîtês líthos*), ὄνυξ (*ónyx*) ; Lat. : gypsum, alabastritis (PLINY) ; Ar. : *gibsîn* جبسين, *giss*, *gass* جص, *isfîdâg al-gassasîn* اسفيداج الجصاصين (IBN GAZLA), *gibs* جبس (Egypt and Syria, modern), *shârûq* شاروق, *qass* قص, *qirmîdh* قرميذ (dict. of Bélot), *kils* كلس, *sârûg* صاروج (HANDJÉRI III, 130) ; Pers. : same names and *jatak-i-hindî* جتك هندى (ABÛ MANSÛR, p. 180), *gatsh* گچ, *gaj*, *kaj* كج (VULLERS), *âjé* آژه (STEINGASS and HANJÉRI), *ârzé* ارزه (1) (NAFICY II, 445), *âhak* اهك (VULLERS, HANDJÉRI) ; Turk. : *jess* جص, *jibs* جبس, *alchi* (*tashi*) (الچى(طاشى ; Eng. : gypsum, alabaster, isinglass, Muscovy glass, plaster of Paris ; Fr. : gypse, plâtre, albâtre, miroir de Sainte Marie ; Germ. : Gibs, Alabaster, Marienglas, Fraueneis ; Egypt. : [hieroglyphs] *'a.t.* (Erman-Grapow, Ägyptisches Wörterbuch, *infra verbum*).

226. Gubn جبن, *Cheese*.

(LECL. No. 467).

GALEN in *De Alimentis* (VI, 697 foll.) (2) : The best cheese is the fresh kind, especially that prepared from sour milk ; it is more palatable and better than other kinds to the stomach, the least difficult to digest and not of a bad nature. The old kind, on the contrary, is acrid, provokes thirst and leads to the formation of stones (concretions in the bladder, etc.).

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(1) According to STEINGASS not plaster, but clay mixed with straw.

(2) *De Alimentorum Facultatibus*, book III, chapter 17 : "On Cheese."

225. Gibsîn جبسين, *Crystalline Chalk* (Calcium Sulphate) (Leol. No. 468).

It is a stone which occurs in the quarries of gypsum (*gass* جص). It is lamellar, white and transparent. There is a red kind of it, and there is a third kind which is a mixture of both. It is said that this is nothing but real gypsum.

Galen IX (XII, 213) : It is desiccative, glutinous, clogging, obstructing and solidifying.

Diosc. V (116) : It stops haemorrhages ; if drunk (with water) it kills by suffocation.

COMMENTARY

It is evident from Gh.'s description that he means by *gibsîn* جبسين the Muscovy-glass, that transparent crystalline form of calcium sulphate which is designated by the Arabic word *safâ'ihî* صفائحى (lamellar, laminate). Calcium sulphate in all its forms, the anhydrate (Ca SO_4) gypsum (Ca $SO_4 + 2H_2O$), alabaster and Muscovy-glass, is very frequent in the Arabian and Egyptian deserts [1]. It was known to the Greeks who described it under the name of γύψος (*gýpsos*), ἀλαβαστρίτης λίθος (*alabastrítês líthos*) and ὄνυξ (*ónyx*) which latter name designates an alabaster-like calcium sulphate and not the silicate which was later on called by this name. In Medicine it was sometimes used in the form of burnt gypsum (" plaster of Paris ") as an hœmostatic and against corneal leucomata in the eyes.

Idrîsî (p. 96) gives synonyms for gypsum in different languages, but all mutilated by copyists.

Ibn Gazla calls gypsum "white-lead of the plasterers" (*see* synonyms).

Dâwûd (1, 204) gives a fantastic opinion of the chemical composition of gypsum (with mercury, etc.) and calls it "a marble of incomplete maturity."

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(1) Compare *suprà* chap. 184 (*bisdq al-qamar*).

("mucus-coloured jasper"), *balghami tash* بلغمى طاش ("(mucus-coloured stone") (all Samy); Eng., Fr. and Germ.: onyx; Fr.: (moreover): agate rubané.

224. Gamast جمست, *Amethyst.*

(Lecl. No. 510).

The red hyacinth-like; if a person drinks from a vessel made of it, he does not become drunk.

COMMENTARY

This chapter is probably abridged by BH., extracted from one of the numerous Arabic *Lapidaries*. Compare the corresponding paragraph of IB. translated by Leclerc. Dâwûd repeats IB.'s quotation of Al-Kindî that the best amethyst is found in the valley *as-Safrâ'* الصفراء in the Higâz (Arabia). He believes that amethyst is a clear residue from the "coction" of much sulphur and a little mercury from which comes its red (violet) colour. There are many superstitious applications of this harmless kind of bluish-violet variety of quartz. The Arabic name is a corruption of Greek ἀμέθυστος (*améthystos*), *i.e.* "preventing drunkenness," a name resulting from the above-mentioned superstition. This is the reason why precious amethyst-cups are sometimes found in the treasuries of Royalties and Churches.

Synonyms: Gr.: ἀμέθυστος (*améthystos*); Lat.: amethystus (Pliny); Ar.: *gamast* جمست, *gamasht* جمشت (Dâwûd); Pers.: *jamast* جمست, *gamast* گمست, *karkahan, karkahân* كركهن ، كركهان (Naficy II, 57), *la'l-i-kabûd* لعل كبود (the same); Turk.: *jebel-loqûm tâshî* جبالقوم طاشى (Handjéri, Samy) [1]; Eng. and Germ.: amethyst; Fr.: améthyste.

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[1] The meaning of this name is "*luqûm* of the mountain." *Luqûm* لقوم (Locoom) is the gelatinous sweetmeat "Turkish delight" prepared with gum-arabic, fruit juices and rosy or yellowish dye-stuffs. The origin of this name is Arabic (*luqûm*, plur. of *luqma* لقمة, a mouthful). The Turkish name for amethyst refers to the transparent mineral and its resemblance to this coloured sweetmeat.

finger, it provokes any amount of worries to the wearer and causes him frightening dreams. Pounded, it polishes the hyacinth-stone; if carried suspended (round the neck of a woman) it eases delivery.

COMMENTARY

This chapter, much abridged by BH., is abstracted in its entirety from the apocryphal *Lapidary of Aristoteles* (1). It is an agate formed of coloured layers of chalcedony. It was used for the manufacture of cameos, but has no medicinal actions whatever. The above-mentioned superstitions regarding the stone were repeated by all the Arabian and Persian medical authors. DÂWÛD (I, 207) alone gives a short description of the mineral in the following terms: "It is a veined stone, as if it has eyes of yellow, white, red and black colours. The shape of the stone is always oblong, so that people believe it to come from the horn of a beast of burden. The truth is that it is a mineral in the remotest part of Yemen, in the neighbourhood of *ash-Shihr* الشحر (2). If pounded and sprinkled (on a wound) it stops hœmorrhage and causes the growth of healthy granulations." Then follow superstitious prescriptions for its wearing as an amulet. The ὄνυξ (*onyx*) of DIOSC. and GALEN is gypsum; *see* next chapter.

SYNONYMS: Ar.: *gaz'* جزع, *'aqîq Yamân* عقيق يمان ("Yemenite chalcedony"), *'aqîq abyad* عقيق ابيض, *hagar sulaimânî* حجر سليمانى (3); Pers.: same names, and *sang-i-bâbâqûrî* سنك باباقورى, *sang-i-Sulaimaniyé* سنك سليمانيه, *'aqîq-i-safîd* عقيق سفيد (white chalcedony"), *yashb* يشب, *yashm* يشم (all after NAFICY) (4), *sang-i-Mahra* سنك مهره ("stone from Mahra") (5); Turk.: same name and *tamârli 'aqîq* طمارلى عقيق ("banded chalcedony"), *balghami yeshim* بلغمى يشم,

(1) Compare RUSKA, p. 12.

(2) A sea-port on the south coast of Arabia in the land of *Mahra* مهره.

(3) Because it is found in the Turco-Kurdish district of Sulaimaniyé.

(4) The two last names seem to be corruptions of *jaspis* jasper.

(5) In South-Arabia; *vide suprâ* note 2.

Idrîsî gave a very remarkable chapter on *gawz gundum* (Istanbûl MS., p. 81) in which he clearly explained that this substance was not earth, but a vegetable growth: "It is something that grows in the deserts which cross the centre of sterile mountains. It grows between stones, is yellowish in colour and does not rise above the soil higher than the size of a finger-nail. It has neither leaves nor stem, and turns reddish in colour; when dried. Ar-Râzî, al-Basrî and Is-hâq ibn 'Imrân call it "dandruff of the stone" (*bahaq al-hagar* بهق الحجر, lichen). Its best kind is that which is imported from Khorassan. It occurs also in our land, in the east of Andalusia (Spain), in the mountains round Saragossa, but it is not of the same quality as that which is imported from Khorassan. Our people collect it when it is dry. It looks then a kind of granular earth like chickpeas and is of greyish colour." He then describes the preparation of artificial wine with honey, water and *Lecanora*-dust.

Dâwûd (I, 219 foll.) adds that the bees like this lichen, and that the mead prepared with it is "much more intoxicating than fermented drinks. The drink remains potent for a long time. The yellow (lichen) imported from the Berbers' country, (North Africa) is bad. Its best kind is that which is used for preserving honey; one drachm of it is sufficient for one *ûqîya* أقية ($1\frac{1}{2}$ English ounces)."

Synonyms: Ar.: *gawz gundum* جوز جندم (and corruptions of this name), *khur' al-hamâm* خرء الحمام, *zahr al-hagar* زهر الحجر, *shahm al-'ard* شحم الارض, *turâb al-'asal* تراب العسل, *turbat al-'asal* تربة العسل; *bahaq al-hagar* بهق الحجر (*see* above). For other names *see* Issa, p. 86. Pers.: *shîr-zâd* شيرزاد (Schlimmer, p. 343), *jawz gandum* جوزكندم, *gil-gandum* كل كندم (Abû Mansûr); Turk.: same names: Eng.: manna lichen ?? Fr.: lichen nutritif, lichen comestible; Germ.: Manna-Flechte.

223. Gaz' جزع, *Onyx.*

(Lecl. No. 482).

This a well-known stone; it is of two kinds, Yemenite and Chinese. It is said that if it is worn mounted as a ring on the

to be a kind of palatable lichen, *Lecanora esculenta Ev.* or *L. affinis Ev.*, *Chlorangium Jussufii Lk.* and the like. The latter lichen is in fact indigenous in Tunisia (Barca), and the Spanish kind, called "pigeon's dung" has been identified with *Lecanora crassa Lejasca* (Sickenb.). These Lecanoraceae growing on wood and stones are whitish, crumbled masses which are detached and driven by the wind over the steppes of Asiatic countries. They form in times of drought and famine an important food for Kirgiz, Kurdish and North-African nomads. They are said to be the Manna of the Israelites, which descended during their wanderings in the Sinai desert (where they are not found to-day).

Schlimmer (pp. 12–14) gives a detailed report on the growing of *Lecanora* in the Persian deserts, particularly in *Sîstân*, a few hours after a heavy rain. The inhabitants still believe in a legend of how the army of Alexander the Great was saved from death, during the campaign to India, by the sudden growth of this nutritious lichen. It is used in Persia as a galactagogue for women, and bears the name *shîr-zâd* شير زاد ("milk-producing"). *Lecanora* is frequent also in the North-west of Persia up to Senjân (near Mossul).

The name *gawz gundum* is half Arabic half Persian, the first word meaning "nut" and the second (*gandum* گندم) "wheat;" it is said that the nut-like fragments of this lichen are sometimes heaped up (by the wind) like mounds of wheat. Other spellings are corruptions of *gawz gundum*.

The quotation of Paulus Aegineta by Arab authors is erroneous. He speaks of *Manna Thuris* a wholly different substance (*see* Adams I, 451). IB. quotes older Arabic physicians who give a correct description of the drug, *e.g.* Is-hâq ibn 'Imrân. "It is an earth composed of grains like chickpeas, of yellowish-white colour." Ibn Gulgul says: "It is the 'honey earth' with which in our land (Spain) the honey is preserved during the summer; it is imported to us from the *Zâb* زاب near Qairawân (in Tunisia)." The preparation with honey and water described by Gh. must form a kind of honey-mead.

when QUSTÂ' B. LÛQÂ lived there. The reason for so many mistakes of botanists was probably due to the fact that the only Pistacia growing in Egypt is *Pistacia Khinjuk Stock var. glabra Schweinf.*; but this is a desert tree and its fruit has nothing whatever in common with Qustâ's description. As to the synonyms we refer to chapter 128.

222. Gawz Gundum جوز جندم, *Manna Lichen* ? (Lecanora esculenta, affinis Ev., etc.).

(LECL. No. 538).

It is called also *gawz kandum* جوز كندم and *gawz ʿandum* جوز عندم; it is called "honey-dust" (*turbat al-ʿasal* تربة العسل) and "flower of the stone" (*zahr al-hagar* زهر الحجر) and also "pigeon's dung" (*khur' al-hamâm* خرء الحمام). It is loosened earth, whitish-yellow, which is imported from Barca and Khorassan; but it is not the earth of Barca as it is alleged.

RUFUS [1]: It is refrigerant, desiccative and sedative.

ANOTHER AUTHOR: It is hot and humid.

IBN SÎNÂ: It cures eczema (*qûba'* قوباء), brings down temperature and is an aphrodisiac.

ANOTHER AUTHOR said: If a quarter of a *kilja* كلجه [2] of it is mixed with ten pounds (*artâl* ارطال) of honey and forty pounds of hot water, beaten to a thin consistency and covered up, it turns immediately into wine.

COMMENTARY

SONTHEIMER thought this substance to be gamboge or the resin-gum of *Garcinia*. LECLERC contradicted him and declared the drug in question to be a *Lecanora* (Lichenes), and SICKENBERGER (ARZN., p. 63) confirmed his opinion. It seems, indeed,

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(1) IB. has, instead of Rufus, Paulus; this latter reading seems more correct, as quoted also by IBN SÎNÂ.

(2) Perhaps *kalîja* كليجه (Pers.) "a loaf."

221. Gubrus جبرس (?), *Nelumbo* (Nelumbium speciosum Willd.).

(LECL. No. 547, *giyûs* جيوس).

QUSTÂ B. LÛQÂ (1) : It is "the Egyptian pistachio-nut" (*al-fustuq al-misrî* الفستق المصرى) ; it is something growing in stagnant waters. It has a hollow and tender stalk on the top of which is something shaped like the calyx of a drinking cup (*qadah* قدح). Its colour is between green and black. There are round holes in it, and in each hole is a globular grain covered with a thin peel like that which covers a chestnut (*shâhballût* شاهبلوط). This plant is only good as a food.

COMMENTARY

Not a single old or modern botanist has been able to identify this drug, including even SICKENBERGER who knew so well the botany of Egypt. It is, however, easy to recognise in the description given by QUSTÂ IBN LÛQÂ the fruit of *Nelumbo* (the water-lily *Nelumbium speciosum Willd.*, Nymphaeaceae) which is shaped like the rose of a watering-pot. In its holes are the round seeds which have been described in chapter 128 (2) under the names of "Egyptian bean" (κύαμος Αἰγύπτιος, DIOSC.) or "Coptic bean" (*bâqillâ qibtî* باقلا قبطى Gh.). The flower was mentioned in chapter 103 under the Persian name of *aw sapîd* او سپيد (3). The seeds were in former times, an important food in Egypt. In our days the Nelumbo plant or peltated water-lily grows only in gardens. The Arabic name is given from three sources in three different forms : Gh. (MS. T.) spells *gubrus* جبرس ; MS. G., *gubrûs* جبروس ; and IB. *giyûs* جيوس. It has been impossible for us to find out the origin of these names. As to the name "Egyptian pistachio-nut," it may have been used in Syria and Mesopotamia in the IXth cent. A.D.

(1) *See* our *Introduction*, No. 21, p. 14.

(2) *See* p. 277.

(3) *See* No. 103 *Awsîn*.

COMMENTARY

This plant may be one of the kinds of sea-navelwort (*Androsace Tourn.*, Primulaceae) ([1]). This identification could not be realised from Gh.'s short description, but from IDRÎSÎ's more detailed chapter which was copied by IB. and which we translate here from the Istanbûl MS. (p. 88): "It is a plant growing in sandy places, annual and about a span high. It has a knotty stem with many thin twigs. The leaves are narrower than those of the chickpea (*himmis* حمص) and in pinnate arrangement. At the top of the stem there are pine-cone shaped pods, three or four on the top of each stem, like yellow myrobalans (hara nuts, *halîlag asfar* هليلج اصفر), having at their ends something like thin twigs ([2]) resembling a dried-up hand (*shallâ'* شلاء). In their interior there are three partitions through their whole length, and in them are found seeds like those of fenugreek (*hulba* حلبة), always five grains in each (compartment)." IDRÎSÎ then discusses the medicinal qualities of the seeds and affirms, like Gh., that the fruits are aphrodisiac.

DÂWÛD (I, 208) says that the plant was called in Syria *khusâ ath-tha'lab* خصى الثعلب ("fox's testicle"), a name which we already found for Satyrium (*Orchis hircina*) ([3]).

The name *guft-afrîd* is Persian and its meaning is "created in pairs," ([4]) whence the allusion to testicles and the belief in its aphrodisiac power. VULLERS (II, 47) mentions the Persian synonym *ruqâqis* رقاقس which he derives from Greek ὄρχις (*órchis*= testicle).

SYNONYMS: Ar.: *guft afrîd* جفت افريد, *khusâ 'ath-tha'lab* خصى الثعلب (DÂWÛD), *mullâh* ملاح, (Maghrib), *kalaf* كلف (ISSA); Pers.: *ǰuft afrîd* جفت افريد, *ruqâqis* رقاقس (VULLERS); Turk.: same names; Eng.: sea-navelwort; Fr.: androsace, androselle; Germ.: Mannsschild.

([1]) It has nothing to do with DIOSC's *androsakes* (*see* above, chapter 46, p. 134).

([2]) In the text *sha'r* شعر (hairs) instead of *shu'b* شعب (twigs).

([3]) *See* above, chapter *bûzîdân* (No. 140).

([4]) Referring to the split-up fruit.

Alkekengi), and in the interior of each husk there are yellow oblong pods (*ghuluf* غلف) in the interior of which, again, are two grains smaller than a chickling-pea. They are eaten and their infusion is useful against colic.

COMMENTARY

The plant in question cannot be identified with certainty. The description reminds one of a kind of orpine (*Sedum*, Crassulaceæ); the leaves of *Sedum reflexum*, *e.g.* resemble those of purslane and are used as vegetables. The description of the fruit is more like that of *Sedum Cepaea L.* But other identifications are possible.

Gh. is the only Arabic author who gives the name of *gawz al-qatâh* جوز القطاه (better *al-qatâ'* القطاء), *i.e.* "sand-grouse-nut"; DÂWÛD (I, 220) adds that it is favoured by this bird, but is of no other use. IB. (LECL. No. 534) thinks that Gh.'s *gawz al-qatâh* is identical with *gawz al-anhâr* جوز الأنهار ("nut of the rivers") which he identifies, according to some Spanish botanists, with κηπαία (*kêpaía*, DIOSC. III, 151).

SYNONYMS: (for *Sedum Cepaea L.*): Gr.: κηπαία (*kêpaía*, DIOSC.); Lat.: cepaea (PLINY); Ar.: *gawz al-qatâh* جوز القطاه (Gh.), *gawz al-anhâr* جوز الأنهار (Ib.), *gawz al-barr* جوز البر (ISSA); Pers. and Turk.: no names; Eng.: Cepaea orpine; Fr.: orpin cépée, joubarbe des vignes; Germ.: Zwiebelpfeffer, rispige Fetthenne.

220. Guft Afrîd جفت افريد, *Sea-Navelwort*? (Androsace Tourn.?).

(LECL. No. 491).

IBN SÎNÂ (I, p. 285): A pine-cone shaped plant [1] resembling an almond on the top of which are two growths like thorns; sometimes it is split up and opened; it is strongly aphrodisiac-

[1] In IBN SÎNÂ's original text: "something like a pine-cone."

hot lands or on mountains has a stronger action (than the others).......... The parts of this drug used are the seeds in the interior of the nut. It has been asserted that they are like orange-seeds; but what I have seen is something like henbane-seeds, white and black." DÂWÛD then recommends it as a tonic and in decoction with vinegar externally against swellings, tumours, dropsy and skin diseases. "If eaten it is soporific and causes sleep for about three days. If this is associated with vomiting it is followed by stupor, madness and refusal to eat and drink. It is sometimes fatal. The treatment is to excite vomiting with honey, natron, nut-oil and strong purgatives......."

SYNONYMS (used for *Datura Metel, Stramonium* and *fastuosa*): Ar.: *gawz mâthil* جوز ماثل, *gawz mâthâ* جوز ماثا, *gawz mâthim* جوز ماثم (?), *gawz rubb* جوز رب (MAIM, IB.), *dâtûra* داتورة (Egypt, DÂWÛD), *bang* بنج (Yemen, SCHWEINF.), *mang, mank* منج ، منك (Syria LOEW), *al-muraqqad* المرقد (Syria, DÂWÛD), *buqum* بقم (Yemen, VULLERS); Pers.: same names and *gawz buqum* جوز بقم, *tâtûra* تاتورة, *tâtûla* تاتولة (VULLERS), *talânûr* طلانور (Mazenderân, SCHLIMMER, p. 176); Turk.: *jewz mâthil* جوز ماثل, *tâtûla* طاطوله (AVNI, p. 167), *bengilik otu* بنكيلك اوتى ("narcotic plant"), *dewé elmasi* دوه الماسى ("the camel's jewel") (both given by SAMY, p. 691); Eng.: thornapple, devil's apple, apple of Peru (the fruit), datura-seeds; Fr.: pomme épineuse, datura, stramoine, endormie, herbe aux sorciers, herbe des magiciens, herbe du diable, pomme du diable, chassetaupe.; Germ.: Stechapfel, Tollkraut.

219. Gawz al-Qatâh جوزالقطاه, *Orpine*? (Sedum Cepaea L.?).

(LECL. Nos. 532 and 534).

It is a plant which grows in depressed plains (*qî'ân* قيعان); its leaves are like those of purslane (*baqla hamqâ'* بقله حمقاء), but smoother and covered with down. Its twigs are numerous, coming out from one and the same root, and prolonged on the earth. They are tender and nodulous. It has husks (*akhbiya* أخبيه) like those of the winter-cherry (*al-kâkang* الكاكنج, *Physalis*

The thornapple was unknown to the Greeks. The Persians knew it under the name of *tâtûra* تاتوره or *tâtûla* تاتوله derived from Indian *dattura*. In Egypt this name *tâtûra* is to-day in use for *Datura Stramonium* and also for poisonous electuaries containing hemp (*hashîsh* حشيش) or henbane (*Hyoscyamus muticus*) (1) which are used criminally. The similarity of symptoms of poisoning with *Datura* and with *Hyoscyamus* probably caused this confusion. For the same reason *Datura* is sometimes called in Syria and Palestine *bing* بنج, *mang* منج or *mank* منك, names for *Hyoscyamus* (Loew III, 354). *Datura Stramonium* is a frequent weed in Lower Egypt, *Datura Metel* is more rarely met with (Ramis, p. 166 foll.).

The first good descriptions of the drug were given by Mesopotamian and Persian physicians, mostly cited by IB. ('Isâ b. 'Alî, Ibn al-Bitrîq, ar-Râzî, Ibn Sînâ and al-Bîrûnî).

Idrîsî (p. 80, No. 173) committed a strange mistake in confusing the thornapple with Mafureira (*gawz al-kawthal*) (2). He describes the plant as a lofty tree and the fruits like small pomegranates; on the other hand he says that the tree is found in Spain.

Dâwûd (I, 217 foll.), however, gives an independently written and interesting description: " It is generally known as *al-muraqqad*, and it is called in Egypt *ad-dâtûra* الداتورة. It is a plant which offers no difference in its aspect to the egg-plant (*bâdhingân* باذنجان). It grows near running water, in mountains and near ponds. It has a white flower and green and rough calyces (perianths) which reach the length of a finger. Later they become compact and stick together, and sometimes one flower produces more than one nut. This fruit grows on the top of the plant, is thorny, compact, greyish before and black during maturity. It usually ripens, in the month of *Hazîrân* (February). Experience has shown that the plant growing in

(1) *See* above, chapter 162 (*bang*).

(2) *See* before, chapter No. 217.

grains ; its bark is rough, its taste palatable and rich. It is cold in the fourth degree and, one carat (*qirât* قراط) (1) of it taken in grape-wine (*nabîdh* نبيذ) (*fol* 28 *v*) causes deep intoxication, and one *mithqâl* مثقال (2) kills.

AR-RÂZÎ : It is narcotic and sometimes fatal ; it causes nausea, vomiting and coma.

COMMENTARY

This drug is the fruit of *Datura Metel L.* (Solanaceae), a plant which grows wild in South Asia, especially in India where it was known from early times. Its Sanscrit names were *dhattura, dhastura* and *unmatta* (DYMOCK II, 584) ; from this latter name, meaning "insane," in Hindustani comes *mâtâ* ماتا (3) "drunk, intoxicated," and from this latter term also, one of the Arabic and Persian names is undoubtedly derived. Another Sanscrit name is *mâthula*, *i.e.* "maternal uncle" (in Hindustani *mâtul* ماتل) ; this is probably the origin of the name *mâthil*-nut. The Indians did not, however, differentiate between the different kinds of *Datura* ; they used (and still use), besides *Dâtura Metel, Datura Stramonium* and *Datura fastuosa.* So did probably the Arabs (4) during the Middle Ages, while the Persians used with preference *D. Stramonium* which grew in Northern Persia and Afghanistan whence the drug seems to have reached Europe by way of the Arabian trade. It is now a weed growing on rubbish-heaps over the whole of Europe and Asia.

All the kinds of *Datura* contain in their leaves (5) about 0·5 per cent of alkaloid, chiefly scopolamine (hyposcine) with traces of hyoscyamine and atropine. The leaves are now used for fumigations. The seeds contain about 4 per cent of hyoscyamine and oil.

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(1) *i.e.* four grains.

(2) *i.e.* one and a half drachms.

(3) SHAKSPEAR's Dictionary, p. 1544.

(4) To whom the thorn-apple alone, not the leaves, was imported from India and Persia.

(5) These are official in the India Pharmacopoea (from *Datura fastuosa L. var. alba*).

Dâwûd (I, 219) says that the leaves of the plant are like ivy-leaves, the fruit oblong, full of seeds whose flavour is like that of beans. This is exact, as fruit, bark and seeds are not poisonous. It loses its emetic action after two years' preservation.

Synonyms: Ar.: *gawz al-kawthal* جوز الكوثل, *aqrâs al-malik* اقراص الملك (Gh.), *al-kashla* الكشلة, *khubz al-ghurâb* خبز الغراب ("raven's bread"), *qurs al-ghurâb* قرص الغراب ("raven's pastile," Issa, p. 153), *qâtil al-kalb* قاتل الكلب ("dog's bane"), *khâniq al-kalb* خانق الكلب (same sense, Vullers II, 802) (1); Pers.: *kuchula* كچله (Vullers ibid.), *kachûla* كچوله (Schlimmer, p. 402), *âdârâqî* اداراقی and *âzârâqî* ازاراقی (Vullers I, 72–73) (1); Turk.: *jevz el-kevsel* جوز الكوثل (Turk. Anonymous MS.). No names in European languages.

218. Gawz Mâthil جوز ماثل, *Thorn-Apple* (Datura Metel L. Datura Stramonium) and others.

(Lecl. No. 527).

It is also called *gawz mâthim* جوز ماثم (2) and *gawz mâthâ* جوز ماثا, and is known to us (in Spain) as "the soporific plant" (*shagarat al-murqid, al-muraqqad* شجرة المرقد). It is a θάμνος (*thamnos*, shurb) reaching about the height of a sitting man. Its leaves are like small egg-plant (*bâdhingân* باذنجان) leaves except that they are more solid and much more smooth. It has large white flowers, not quite a span long, resembling Syrian trumpets (*abwâq* ابواق). It is kept in long green calyces (perianths) with long stalks. It has a fruit like a walnut with a rough and almost thorny bark; in its interior there are grains like those of mandrake (*luffâh* لفاح).

'Isâ ibn 'Alî (3): *Gawz mâthâ* جوز ماثا (4) resembles the emetic nut [*gawz al-qayy'* جوز القئ (5)] and its grains are like mandrake

(1) The last names are used in modern times to designate *Nux vomica* (*Strychnos*)

(2) This name is corrupt in both our MSS.; *mâthim* itself seems to be a corruption of *mâthil*.

(3) *See* our *Introduction* No. 16, p. 13.

(4) This name is corrupt in both our MSS.

(5) *See* above, chapter 215. The first part of this quotation is ascribed by IB. to Ibn al-Bitrîq.

It is also called " the King's tablettes " (*aqrâs al-malik* اقراص الملك); some people call it " emetic nut " (*gawz al-qayy'* جوز القيء). It is a remedy which is brought from India. It is like a small chestnut (*shâhballût* شاهبلوط) in its shape and colour. Half a drachm of it is purgative and emetic; but it is unreliable.

COMMENTARY

The drug in question has been recognised by botanists as the fruit of *Randia dumetorum Lam.*, an Indian rubiacea, a thorny tree producing globular or oval fruits which have, in the fresh state, a strong odour of recently tanned leather. When dried, they are about the size of a crab apple, reddish-brown and crowned with the rim of the calyx. They were known to the ancient Indians under the Sanscrit name of *madana* (actually Hindustani *mindhal*, etc.). It is the dry pulp of the fruit which is emetic when extracted with water. DYMOCK (II, 204 foll.) gives this description, and ISSA (p. 153) the modern botanical synonyms of the plant.

As to the Arabic name *kawthal*-nut جوز الكوثل, it is derived from Persian *kuchula* كچله, and this from the Hindustani *kuchilâ* كچلا (1), which designates, however, (*Strychnos*) *Nux vomica*. It is possible that the drug *kusailâ* كسيلا or *kasîla* كسيله mentioned by ABÛ MANSÛR (p. 253) without a description is the same as this. SICKENB., (*Arzn.* p. 63) found the dried fruit *gawz al-kawthal* sold in the drug bazaars of the Near East as late as 1892. It has disappeared from Egypt in our days. In India it was in use as an emetic, anti-spasmodic and for catching fish by poisoning the water.

IDRÎSÎ (quoted by IB., not in the Istanbûl MS.) says that the Indian plant producing the fruit resembles cyclamen (its flower ?), and that a dose of six " carobs " may be fatal. IB. gives the advice to pour cold water on the head of persons poisoned with it in order to make them vomit the drug.

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(1) SHAKSPEAR; and DUNCAN FORBES, *Dictionary, Hindustani and English*, (London, 1834 & 1857) p. 1328, spells it *kuchla*.

to its fruit the names of *gawz ar-raq'* جوز الرقع or *gawz al-qayy'* جوز القئ. IB. alone separates the two names in two chapters and seems to believe that they are not identical.

DÂWÛD (I, 218) too did not realise that *gawz ar-raq'* and *gawz al-qayy'* were names for the same drug. He gives a good description of the fruit and says that it grows in the mountains of *San'â* صنعا (1) and its neighbourhood. He adds that the fruit exhales a disagreeable smell.

In conclusion we have to state that the two above-mentioned names designate the same drug, the fruit of *Trichilia emetica Vahl.* (*Elcaya jemenensis Forsk.*). *Nux vomica* (*Strychnos*) seems to have been unknown to the Arabs, as the emetic action of the fruit seeds was unknown to the Indians before the XVIIth century (DYMOCK II, 460), although that of the wood was known. Consequently, ISSA's designations in three different places of his useful book (p. 75, 2; 175, 4 and 182, 13) ought to be united under the names given above.

In our days, however, the name *gawz al-qayy'*, being the exact translation of *Nux vomica*, is applied to this *Strychnos* (fruit and seeds).

SYNONYMS : AR. : *gawz ar-raq'* جوز الرقع, *gawz al-qayy'* جوز القئ (the nut, Gh., IDRÎSÎ), *raq'* رقع (the tree), *ruqâ'*, *raqâ'* رقاع (the tree, SCHWEINF., p. 172), *tîn ar-ruq'* تين الرقع (LISÂN I, 491 last lines) ; Pers. and Turk. : same names and *jawz-i-muqayyi* (*jewz-i-muqayyi*) جوز مقئ. The name of the tree and fruits in European languages is the Portuguese *Mafureira*, itself derived from a Bantu name in use in Central Africa.

217. Gawz al-Kawthal جوز الكوثل (Fruit of Randia dumetorum Lam.).

(LECL. No. 536).

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(1) To-day the capital of the land of Yemen (South-west Arabia).

Africa and South Arabia. Its first description was given by FORSKAL (p. 126) under the name of *Elcaya*. He mentioned the emetic qualities of the fruit as given by Arabic authors. The modern scientific synonyms of the tree are recorded by Blatter [1]. The fruit of this plant contains bean-like seeds which are known under the name of *Mafureira seeds* and exported in great quantities from Lorenzo Marquez and other East African harbours. The seeds are used by the natives as emetics, but they contain a harmless tallow-like grease which is used in Europe for alimentary and industrial purposes. SICKENBERGER (*Arzn.*, p. 62) confirms DYMOCK's opinion, but independently of him.

The old Persian authors (ABÛ MANSÛR, IBN SÎNÂ) did not give a description of the tree or its fruit. IBN SAMGÛN, however, quoted by IB. (LECL. I, p. 381) says that AR-RÂZÎ mentioned *gawz ar-raqʿ* and *gawz al-qayy'* and their emetic action in the same chapter of his *Book on the Divisions of Diseases*. We suppose that Gh. abstracted the above paragraph from that book.

ABÛ ḤANÎFA AD-DÎNAWARÎ (cited by IB. *loc. cit.*) said: "I learnt from an Arab of the *Sarât* [2] that *ar-raqʿ* الرقع was a tall tree as high as a walnut tree, that its fruit resembled a fig or a small pomegranate."

IDRÎSÎ (p. 81), like Gh. identifies *gawz ar-raqʿ* and *gawz al-qayy'* and adds that it is the fruit of a lofty tree from *Sarât al-Yaman* [3]. "It is shaped like a Christ's-thorn-fruit (*nabq* نبق of *Zizyphus Spina Christi Willd.*), but a little larger. There are six divisions (*ḥuǵub* حجب) enclosing between each two a grain like a pine-cone grain. They contain, moreover, a milk-juice." He recommends the seeds as emetics, alone or with salt, milk or oil.

This description can be applied to the fruit of *Trichilia emetica*. MAIM. speaks equally of *raqʿ* as a great tree and gives

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(1) ETHELBERT BLATTER, *Flora Arabica* (Calcutta, 1919) p. 113.

(2&3) The mountain chain running along the western side of the Arabian plateau.

bisila بسلة (Egypt, DÂWÛD); Pers.: *julbân* جلبان, *khullar* خلر (1) (Qazwîn), *jalûl* جلول (Adharbaijân), *malk* ملك (Khorassan, a three according to ABÛ MANSÛR, p. 178), *jalîbîna* جليبينه (NAFICY II, 872), *qalbaq al-yahûdiyya* قلبق اليهودية ("the Jewess' cap"); Turk.: *purchaq* بورجاق (AVNI, p. 262), *aq burchaq* اق بورجاق (SAMY): Copt.: ϩⲟⲣϥ; Eng.: chickling-vetch, bitter-vetch, blue-flowered lathyrus; Fr.: gesse (cultivée), lentille d'Espagne; Germ.: angebaute Platterbse, Acker-Platterbse.

216. Gawz Al-Qayy' جوزالقىء, "Emetic Nut," *Mafureira-Fruit* (Trichilia emetica Vahl).

(LECL, Nos. 528 and 529).

It is also called *gawz ar-raq'* جوز الرقع. It is imported from the Yemen and is supposed to be a kind of sorrel (*hummâd* حماض, Rumex). It is a little larger than a hazel-nut, its colour varying from yellow to white; it has incisions (*tahzîz* تحزيز) on the surface. Drinking of two drachms of its decoction provokes the vomiting of phlegm and (bad) humours, and is useful against plegia and facial paralysis.

COMMENTARY

In Arabic, *nux vomica* is called *gawz muqayyi'* جوز مقىء and the Arabic name *gawz al-qayy'* جوز القىء ("emetic nut") has been applied by nearly all the modern botanists to the seeds of *Strychnos nux vomica L.* (Loganiaceae). DYMOCK (II, 460) was the first to state that there would seem to be no foundation for such an identification. At another place (I, 340) he spoke about FORSKAL's statement concerning a species (*Elcaya jemenensis Forsk.* or *Trichilia emetica Vahl.*) "called *rukeh* by the Arabs, the fruit of which is their *Jauz al-kai* or 'emetic nut,' and is used also in hair washes to kill lice, and made into an ointment to cure itch." *Trichilia emetica Vahl.* (Meliaceae) is a lofty tree, like a walnut tree, frequent in the steppes of Central

(1) According to LOEW (II, 437) derived from Babylonian *khallûra*.

In Egypt, the culture of *gulbân* (*Lathyrus sativus*) is frequent (MUSCHLER I, 544–7, RAMIS, p. 121), though lathyrism is unknown.

The second species of chickling-vetch described by Gh. may have been *Lathyrus silvestris* or *platyphyllos* which both have beautifully coloured flowers.

The name *gulbân* or *gulubbân* جلبان is half Arabic half Persian. This pulse whose cultivation is so widespread bears many Oriental names for which we refer to the synonyms at the end of this chapter. The Spanish name *basîla* بسيلة given by Gh., MAIMONIDES and IB. is probably Latin, a diminutive of *pisum*, *i.e.* pea (Italian *pisello* from which the modern Egyptian term *bizilla* بزلّة, *bisila* & *bisilla* بسلّة is derived). The (modern) Greek name *basilikon* given by Gh. may be a diminutive of *pisello*; it is not in the dictionaries.

IBN GULGUL's remarkable narrative of the neuro-toxic qualities *Lathyrus sativus* was repeated by Gh., IDRÎSÎ and IBN AL-AWWÂM (II, 66 foll.). The latter gives a curious Arabic name for the smallest kind of *Lathyrus*-grains, viz, *al-a'rag* الاعرج, *i.e.* "the lame," on account of its paralyzing qualities! He then speaks in detail of the cultivation of this pulse.

DÂWÛD (1, 209) describes five different kinds of *Lathyrus*, among them the Egyptian *bisilla* بسلّة and a rough and a black kind (*Lathyrus hirsutus* and *niger*). He describes the medical use of *gulbân* against diseases of the chest, skin diseases and fractures and says that it may provoke "black-bile" – diseases like elephantiasis and ileus; but he does not speak of lathyrism.

SYNONYMS: Gr.: λάθυρος (*láthyros*, THEOPHR.); Lat.: cicercula (PLINY XVIII, 124); Ar.: *gulbân*, *gulubbân* جلبان, *al-'anaz* العنز (ISSA), *al-qurainâ* القرينا (the wild Lathyrus, MAIM.), *al-hasaf* الحسف (Yemen, ISSA), *shaltûth* شلطيث (Spain, IBN AL-'AWWÂM), *al-a'rag* الاعرج (the same), *hurtumân* هرطمان ('Irâq, LOEW II, 438), (1) *al-khurfâ* الخرف (DÂWÛD, NAFICY), *bîqa* بيقة (DÂWÛD),

(1) Derived from Syriac *hartumânâ*; to-day mostly used for coats (*Avena*).

The Author says: There is a large kind of chickling-vetch which is bitter, and edible only after boiling. It is called *basîla* بسيله, and in Greek βασιλικόν (*basilikon*). There is another wild kind which has larger leaves than the cultivated one; its green colour is inclined to be white, and its shoots issue from the very leaves which stick to the twigs at both sides and are hidden from view. At the end of each leaf are three filaments twisted like the filaments of the vine, except that they are thinner. They twist round plants which are near to them. Its flower is quite white or red; it has carob-like pods (*kharârîb* خراريب, gousses) in which are grains smaller than lupin-grains (*turmus* ترمس). If eaten (by women) it acts as a galactagogue.

COMMENTARY

This plant is the well-known chickling-vetch (*Lathyrus sativus L.*, Leguminosae). It seems strange that it is not mentioned by Dioscurides, although the plant, perhaps a native of Caucasia, was cultivated everywhere in Europe since early Greek times. It was known to Theophrastus under the name of λάθυρος (*láthyros*). It is now cultivated in the Mediterranean regions and in the Near East as far south as India. The green husks are eaten by men, while the seeds and the whole plant serve as fodder. It has sometimes, however, poisonous qualities, and Ibn Gulgul's allegation, although exaggerated, has some basis of sound observation. Astier obtained from this pulse a toxic principle, a liquid volatile alkaloid whose action is destroyed by heat. When consumed for long periods by animals or human beings it produces toxic symptoms, called *lathyrism*. This is a kind of paralysis of the nerves of the lower extremities, and in horses also paralysis of the recurrent nerves followed by laryngeal asphyxia. In Bengal (East India), in 1860, four per cent of the population were sufferers from lathyrism (1). Nevertheless this pulse is still much cultivated in our days in India. Its cultivation covers an area of about 500,000 acres.

(1) Irving, Indian Ann. of Med. Science VII, 127; Kirk. *Ibidem*, p. 145. Both according to Dymock I, 490 foll; and A. Buchanan, *Lathyrism Report*, Calcutta 1904.

(*Hermoû botánion*), Ἑρμοῦ πόα (*Hermoû póa*, PLINY); Lat.: Mercurialis herba (Scribonius Largus, chap. 135 and 184), Mercurialis (PLINY); Ar.: *galbûb* جلبوب (Gh.), *garbûb* جربوب (IB.), *halbûb* حلبوب (IB., DÂWÛD, 'ABD AR-RAZZÂQ), *hashîshat 'Utârid* حشيشة عطارد (Gh.), *khusâ Harmas* خصى هرمس ("Hermes' testicle"), *'asâ Harmas* عصى هرمس ("Hermes' stick"), *liblâb saghîr* لبلاب صغير (Gh.) (1), *hurraiq amlas* حريق املس ("smooth nettle," IB.), *kharbûb* خربوب (DÂWÛD), *'asâ Mûsa* عصى موسى ("Moses' stick," DÂWÛD), *baqla* بقلة (Modern Syria), *hashîshat as-samak* حشيشة السمك ("fish's herb," Mod. Syria, BERGGR., p. 860); for other names *see* ISSA, p. 118. Pers.: *jalbûb* جلبوب (VULLERS), *salma* سلمه, *salma-tara* سلمه تره (SCHLIMMER), and the foregoing Arabic names; Turk.: *hashîshé-el-'Utarid* حشيشة العطارد, *yarfesliyani* يرفسلياني ("basil of the earth," AVNI, p. 379, SAMY); Eng.: French mercury; Fr.: mercuriale annuelle; Germ.: einjähriges Bingelkraut, Ruhrkraut, Speckmelde.

215. Gulbân جلبان, *Chickling Vetch* (Lathyrus sativus L.). (LECL. No. 495).

IBN GULGUL: It is one of the edible pulses. It has square twigs which lie flat on the ground. It has longish leaves which bend on the twigs, and reddish flowers followed by rod-like pods which contain not exactly round whitish grains, which are sweet. They are eaten raw in the spring; they are also dried and cooked. It is a grain which causes flatulence. If a person lies down in the place where it grows, he loses the power of motion because it has a selective action which is extremely harmful to the nerves; we observed people whose power of walking was lost and never regained (2).

AR-RÂZÎ: It is cold and dry, does not contain much nutritive material, and the little in it is noxious. It develops black bile and is harmful to the nerves.

(1) This is, however, the usual Arabic name for the bindweed (*Convolvulus arvensis L.*).

(2) This last important passage is missing from IB.'s text.

COMMENTARY

There is no doubt about the identity of this plant. The Greek *linozostis* or *parthénion*, better Ἑρμοῦ βοτάνιον (*Hermoû botânion, i.e.* "Hermes' plant") corresponds to "French mercury," *Mercurialis annua L.* (Euphorbiaceae) a weed frequent in the gardens of European countries of moderate climate. It contains an indigo-producing dye-stuff and *mercurialin*, an alkaloid of disgusting flavour. It was and still is, a medicinal drug (*Herba Mercurialis*), one of "the five emollient herbs" (DRAGEND., p. 378), in use against dropsy and syphilis, and is believed to be an emmenagogue. The "female" plant was probably *Mercurialis annua*, the "male" *Mercurialis ambigua* or *perennis L.*

The Arabic name *galbûb* is in reality Persian (*jalbûb* جلبوب)(1), given by IB. in the corrupt form of *halbûb* حلبوب and *garbûb* جربوب. The same false spelling is found in DÂWÛD (I, 249) and 'ABD AR-RAZZÂQ (p. 163) and passed in to DOZY's dictionary (I, 314 *hulbûb* حلبوب) and LOEW (I, 607). SEIDEL (Mechithar, p. 170) confuses *galbûb* with the bindweed. The Greek, Latin and Arabic names composed with Hermes or Mercurius refer to the testicle-like fruits.

DÂWÛD adds to DIOSCURIDES' description that the leaves of the plant are downy on one side, and that its roots bear two bulbs, one hard and the other soft (parent root and daughter root).

HIPPOCRATES mentions *linozostis* very frequently (*e.g.* V, 375, 411–13, 427, 449, IV, 563, etc.) and recommends its use as a purgative in decoction with flour and oats.

SCHLIMMER (p. 370) says that the mercury-plant is plucked in Persia by poor people and cooked as vegetables are, under the name of *salma* سلمه.

SYNONYMS: Gr.: λινόζωστις (*linzósôtis*, HIPPOCRATES, DIOSC., GALEN, etc.), παρθένιον (*parthénion*. DIOSC.) Ἑρμοῦ βοτάνιον

(1) VULLERS (I, 524) erroneously identifies *galbûb* with *habl al-masâkin* حبل المساكين ("poor people's rope") and *'ushqa* عشقه which are names for "ivy." The same error is found in JOHNSON's and STEINGASS' Persian dictionaries.

For this caryophyllacea is a frequent weed in Greece, in moist gardens, and takes, during the summer, a very white colour (BERENDES, p. 401). This colour is mostly caused by the sting of an insect (*Cercopis spumaria*) which yields a kind of foam covering the plant. Its root, formerly an official drug (*Radix Behen albi*), contains saponin and is used like soapwort (DRAGEND, 207, LUERSSEN II, 552), for rheumatism, gout and affections of the lungs.

IBN SÎNÂ (I, 288) cursorily mentions this plant.

IDRÎSÎ and BÎRÛNÎ did not mention it at all.

DÂWÛD (I, 275) discusses the different characteristics of the kinds of poppy (*Silene*, *Papaver*, etc.).

SYNONYMS : Gr.: μήκων ἀφρώδης (*mêkôn aphrôdês*, DIOSC.), μήκων Ἡρακλεία (*mêkôn Herakleía*, GALEN); Lat. (Medieval). papaver herculeum; Ar.: *gâsûs* جاسوس (IBN SÎNÂ), *khashkhâsh zabadî* خشخاش زبدى (IB.), *bulbûs* بلبوس (? VULLERS I, 257); Pers. and Turk.: same names; European languages: no names.

214. Galbûb جالبوب, *French Mercury* (Mercurialis annua L.). (LECL. Nos. 478, 689 and 803).

It is the small bindweed (*lablâb saghîr* لبلاب صغير).

DIOSC. IV (189): Λινόζωστις (*linózôstis*), and it is also called παρθένιον (*parthénion*) and "Hermes' herb" (*'ushbat 'Utârid* عشبة عطارد). It is a plant with leaves like those of sweet-basil (*bâdhrûg* باذروج), but smaller and more inclined to be like those of the bindweed (*lablâb* لبلاب). Its branches are knotty with many twigs. It is of two kinds, female and male. The female has fruits like heavy bunches of grapes, and the male has small leaves and small round fruits placed two by two resembling testicles. The height of the plant is about a span.

GALEN VII (XII, 63): Its flower relaxes the bowels.

DIOSC.: The decoction of both kinds purges bile and (bad) humours. A pregnant woman who drinks of the male kind gives birth toa male, and of the female kind gives birth to a female.

an-na'ga ذيل النعجة (Modern Algeria, all three given by SCHWEINF., p. 223), *'ushbat al-kharûf* عشبة الخروف (Algeria), *simsim barrî* سمسم برى (ISSA, p. 154), *qaranful* قرنفل (Syria); Pers.: *jabr âhank* جبر اهنك, *jablâhank* جبلاهنك, *jablahank* جبلهنك, *jablahang* جبلهنج, *jalbahank* جلبهنك, etc., *zard khâr* زرد خار (all by VULLERS I, 508); Turk.: same names; Eng.: wild sesame; Fr.: sésamoïde; Germ.: wilde Reseda, weisse Reseda.

213. Gâsûs جاسوس, (Silene Cucubalus Willd.).

(LECL. Nos. 462 and 797).

There are people who would call it *gablahank* جبلهنك on account of their similarity in faculty and nature (1).

DIOSC. IV (66): μήκων ἀφρώδης (*mêkôn aphrôdês*), *i.e.* "the foamy poppy" (*al-khashkhâsh az-zabadî* الخشخاش الزبدى), because it is white like cream (or foam) (2); it is also called Ἡρακλεία (*Hêrakleia*). The length of its stem is about a span, and its leaves are very (*fol.* 28 *r*) small on account of their likeness to those of στρούθιον (*strouthion*, soapwort, *Saponaria officinalis L.*). Near to the leaves there are white fruits. The whole of this plant is white; its stem, leaves and fruits are like foam, and its root is tiny. One ὀξύβαφον (*oxybaphon*) (3) of it with μελίκρατον (*melikraton*, honey-water) is emetic, especially to epileptics.

GALEN VII (XII, 74): Its seeds purge phlegm.

COMMENTARY

This plant was identified by SPRENGEL and SONTHEIMER with *Gratiola officinalis L.* (Scrophulariaceae), a plant whose root has emetic and purgative properties. Nowadays, however, the old idea of Lobelius (supported in modern times by FRAAS and LECLERC) that it is *Silene Cucubalus Willd.* (4), is more likely.

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(1) *See* the foregoing chapter No. 212.

(2) This explanation of the name is not exact; *see Commentary*.

(3) *See* note 2 on page 429.

(4) SYNONYMS: *Silene inflata Sm.*, *Silene vulgaris Gcke*, *Cucubalus Behen L.*, *Lychnis*, *Behen Scop. Behen vulgaris Lk.*

IBN SÎNÂ (I, 283 foll.) says that the Indian *gablâhank* جبلاهنك, as he spells it, resembles hedge-mustard (*tûdarî* تودری, *Sisymbrium officinale Scop.*).

ABÛ MANSÛR (p. 181) gives an extract from DIOSC.'s paragraphs and a lengthy description of the emetic effect of the plant and its treatment by clysters, hot baths and milk diet.

IDRÎSÎ (p. 94) did not recognise the identity of *gablahank* with DIOSC's *sesamoïdes*, but gave an interesting quotation from HUNAIN IBN IS-HÂQ who said : " It is a yellow remedy shaped like the fruits of the turpentine-tree (*habba khadrâ'* حبة خضراء) hot and strongly emetic."

IBN GAZLA says that its seeds are called *dand aswad* دند اسود; the bark of its root *dand asfar* دند اصفر ("black and yellow Croton").

DÂWÛD (I, 204) gives a quite different description : " *Gablahang* جبلهنج is a Syriac name ; sometimes the "l" is placed before the "b" and it is also spelt with "k." It is a black plant with thick rough bark covered with down. It has red flowers followed by seeds like mustard-seeds, but yellow, bitter and acrid. This plant is imported from Armenia and the boundaries of Asia Minor. Its faculties last for four years. It is hot and dry in the third degree. It is useful for quinsy (*khunâq* خناق), asthma (*rabw* ربو) and facial paralysis (*laqwa* لقوه), and it expectorates tenacious and thick phlegm by means of its emetic action....... All that has been said about it otherwise is untrustworthy. We have to administer it with the greatest discretion."

This is again another plant and certainly does not fit with DIOSC.'s description.

SYNONYMS *of Reseda alba L.* : Gr. : σησαμοειδές (*sêsamoeidés*, HIPPOCRATES II, 515), σ. τὸ μέγα (*sêsamoeidés to méga.*, DIOSC., GALEN) ; Lat. : sesamoides, sesimoides (PLINY) ; Ar. : *gablâhank* جبلاهنك (IBN SÎNÂ), *gablahank* جبلهنك (Gh.), *galbahank* جلبهنك (IB.), *basûs at-kharûf* بصوص الخروف, *dhail al-kharûf* ذيل الخروف, *dhail*

UNKNOWN AUTHOR (1) : There is another plant called *al-gablahank* that grows in swamps and resembles papyrus (*bardî* بردى). Its bark is the black turpeth (*at-turbud al-aswad* التربد الأسود). It grows in India and in Soghdiana (*as-Sughd* الصغد) (2), but the Indian kind is better. The drinking of a drachm of it is dangerous; it is emetic and purgative. Some (physicians) succeeded in curing hemiplegic persons with it.

COMMENTARY

Botanists agree to recognise in the first or " great sesamoides " of DIOSC. and GALEN the wild sesame (*Reseda alba L.*), a plant of the Mediterranean regions. It has been found in Egypt (MUSCHLER, p. 439; RAMIS, p. 98). The name *gablahank* جبلهنك is a corruption of the Persian *jabr âhank* جبر آهنك (meaning of this name uncertain); for the numerous corruptions of this name *see* the SYNONYMS at the end of this chapter. Sprengel calls it *Reseda mediterranea*, FRAAS *Reseda undulata* (3), both of them common weeds on rubbish-mounds in Greece and Italy. As to the " small sesamoïdes " of DIOSC. (IV, 163) the old botanists identified it with *Passerina hirsuta L.* (Thymelaceae), while Sprengel thought it to be *Reseda canescens*, Fraas *Ambrietia deltoidea D.C.* (Cruciferae). Concerning the Soghdian and Indian plant quoted by the " unknown author," we could not find a trace of it in DYMOCK'S book. VULLERS (I, 508) gives, from Persian sources, the information that *gabr âhank* is the name of the seed of a thorny plant, *zard-khâr* زرد خار (" yellow thorn "), whose bark is called *turbud-i-zard* تربد زرد ("yellow turpeth"). LOEW (III, 132) was equally unable to give an identification for *gablahang* which seemed to be a Resedacea. Some of these plant-groups contain bitter and acrid substances which are emetic without having the disastrous effects described by Persian authors.

(1) This author is quoted by IBN SÎNÂ (I, 283).

(2) A region in Central Asia; in the text *Sa'id* (Upper Egypt), copyist's blunder.

(3) LITTRÉ, *Œuvres complètes d'Hippocrate, II* (Paris, 1840)) p. 515, translated sesamoeides by *Isopyrum thalictroides L.*

212. Gablahank جبلهنك, "*Wild Sesame*" (Reseda alba L. and others).

(Lecl. No. 496).

Diosc. IV (149 and 163): σησαμοειδές (*sêsamoeidés*). The inhabitants of Antikyra (1) call it "hellebore" (*kharbaq* خربق). It resembles ἠριγέρων (*êrigérôn*, groundsel, *Senecio vulgaris L.*) and "rue" (*sadhâb* سذاب). It has long leaves, white flowers and a root which is of no use. Its seeds are like sesame (*simsim* سمسم), but of bitter taste.

Galen VIII (XII, 120): This plant resembles hellebore.

Diosc.: Drinking of half an ὀξύβαφον (*oxýbaphon*) (2) of its seeds finely pounded with μελίκρατον (*melíkraton*, honey-water) helps the vomiting of phlegm and pus.

As to the small *sêsamoeidés*, it is a plant with twigs of about a span long, and leaves like κορωνόπους (*korônópous*, harts horn, star-of-the-earth, *Plantago Coronopus L.*), except that they are rougher and smaller. At the ends of the twigs there are capitula of purplish colour, white in the centre, and containing seeds like sesame of hyacinth-red colour. Its root is thin.

Abû Guraig (3): The *gablahank* is of two kinds, one red and the other yellow. It is a kind of seed like sesame which is powerfully emetic.

Ar-Râzî in the *Mansûrî Treatise*: It is hot and may sometimes kill the person who drinks it, through the violence of vomiting.

And in his book *On Aliments* (4): Sometimes if fish, living in swamps in which *al-gablahank* grows, is eaten, very violent vomiting might occur.

(1) This name spelled sometimes *Antikirrha*, belongs, to two Greek towns, one in Thessalia and the other in Phokis; both were famous for the active hellebore growing in their neighbourhood.

(2) *i.e.* a small vinegar-saucer or earthenware vessel; this is an interesting variant of Dioscurides' Greek text.

(3) *See Introduction* No. 29, p. 18 (Ibn Guraig).

(4) Another *Treatise of ar-Râzî*; *see Introduction* No. 26, p. 16. This book was published in Cairo in 1888, but is now out of print and very rare;
كتاب منافع الأغذية ودفع مضارها لأبى بكر محمد بن زكرياء الرازى . مصر ١٣٠٥

marshes [1]. Its leaves are like those of the white beet (*silq* سلق), and appear at the surface of the water; they are covered with down.

Galen VIII (XII, 107): It is refrigerant and astringent, and is suitable for itch and malignant and indolent ulcers.

COMMENTARY

The plant in question is *Potamogeton natans L.* (pondweed), an aquatic plant frequent in the fresh waters of Europe and Asia. It is found growing in the ponds and canals of the Egyptian Delta together with *Potamogeton lucens L.* This latter was known since the remotest Antiquity by numerous representations in relief, in painting and on the bodies of hippopotamus-statues [2].

The medicinal use of pondweed was always limited and is to-day unknown in Egypt.

Idrîsî (p. 86) mentions it and simply copies Dioscurides' sayings; 'Abd ar-Razzâq (p. 93) does the same. Dâwûd (p. 202) gives a more independent description of the plant, but commits the error of believing that it does not yield flowers or fruits. He finds it bitter and useful against diarrhoea.

Synonyms: Egypt.: [hieroglyphs] *enshaw*; Copt.: **ⲡⲟⲧⲁⲙⲟⲅⲉⲧⲟⲛ**); Gr.: ποταμογείτων (*potamogeitôn*); Lat.: potamogiton (Pliny); Ar.: *gâr an-nahr* جار النهر, *lisân al-bahr* لسان البحر ("tongue of the sea"), *silq al-ma'* سلق الماء ("waterbeet") (Issa, p. 147); Pers. and Turk.: no name; Eng.: (swimming) pondweed; Fr.: potamogeton flottant, potamot nageant, épi d'eau; Germ.: schwimmendes Laichkraut.

(1) The Arabic name *gâr an-nahr* is the translation of *potomogeiton*, *i.e.* "neighbour of the river."

(2) *See* Ludw. Keimer, *Le Potamogeton lucens L. dans l'Egypte Ancienne.* Revue de l'Egypte Ancienne I (1927) 182–197; the Same: *Nouvelles recherches au sujet du Potamogeton lucens dans l'Egypte Ancienne*, Ibidem II (1929), 210–53; the Same: *Notes additionnelles.* Ibidem III (1930), 36–41.

COMMENTARY

The botanists of the XVIth century were baffled by the question of what might be the *holosteon* of DIOSCURIDES. LOBELIUS and DODONAEUS pleaded for *Plantago albicans L.*, while Tabernaemontanus ([1]) identified it with the caryophyllacea *Holosteum umbellatum* L., the very common chickweed of European and Asiatic temperate lands. It develops its white flowers on sandy and grassy hills and mounds, particularly in the spring.

The Arabic name *gabra* جبرة is derived from the verb *gabara* جبر "to reduce, to restore, to set bones" because it was used as compresses to set broken bones and to reduce meat by boiling and to form a jelly ([2]). This name seems to be proper to the Hispano-Moorish botanists, as it is missing from IBN SÎNÂ's and other Eastern scholars' works.

DÂWÛD (I, 203) says that chickweed is more frequent in the West and that, when once plucked, it is spoiled within three months unless it is preserved in honey. The ancient doctors called it *gâmi' al-lahm* جامع اللحم ("joiner of flesh"). He recommends it externally for wounds and fractures, and internally as a reconstituent to heart and blood.

In European medicine it was never used much.

SYNONYMS : Gr. : ὁλόστεον (*holósteon*, DIOSC.), ὁλόστιον (*holóstion*, GALEN); Lat. : same names (PLINY); Ar. : *gabra* جبرة (Gh., IB.), *gâmi' al-lahm* جامع اللحم (DÂWÛD); Pers. and Turk. : no name; Eng. : chickweed; Fr. : holoste ombellée, holostée en ombelle; Germ. : doldenblütige Spurre.

211. Gâr an-Nahr جار النهر, *Pondweed* (Potamogeton natans L.).

(LECL. No. 461).

DIOSC. IV (100) : ποταμογείτων (*potamogéitôn*). It is so called because it grows in the neighbourhood of rivers and

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([1]) In his pharmacognostical treatise (*New vollkommen Kräuterbuch*, edited after his death, by BAUHINIUS, BASLE, 1613) p. 543.

([2]) According to IB (LECL. I, 167).

PLEMPIUS, in his translation of the *Canon Avicennae* (II, 267) gives it the name of *Ocimum caryophyllatum.* We may also mention here that DRAGENDORFF (p. 587) identifies *gamsifram* with the Indian *Ocimum gratissimum L.*, and that our Turkish anonymous drug-book gives the Turkish and Persian names which are missing from the dictionaries.

Whether the plant is identical with *jawân isparam* or *shibram* جوان شبرم ، جوان اسپرم of ABÛ MANSÛR (*Conyza odorata L.?*) is not sure.

SYNONYMS : AR. : *raihân Sulaimân* ريحان سليمان, *gamsibram* جمسبرم, *gamsifram* جمسفرم, *ar-raihân as-sulaimânî* الريحان السليمانى (1), *as-sultânî min-ar-raihân* السلطانى من الريحان (DÂWÛD I, 231) ; Pers. : *jam-isparam* جم اسپرم (VULLERS, STEINGASS), *siparaghm-i-Sulaimân* سپرغم سليمان (Turk. Anonymous) ; Turk. : *Süleyman fesliyeni* سليمان فسلكنى (2), *küchük fesliyen* كوچك فسلكن (Turk. Anonymous) ; European : Ocimum filamentosum, caryophyllatum, gratissimum ? ; (Fr. : basilie giroflé).

210. Gabra جبره, *Chickweed* (Holosteum umbellatum L.). (LECL. Nos. 179 and 469).

It is called in (Spanish) vernacular *une pieza* (3) or "uniting the few."

DIOSC. IV (II) : ὀλόστεον (*holosteon*). It is an annual plant, about three or four fingers long. It has leaves and twigs like those of κορωνόπους (*koronópous*, star-of-the-earth, *Plantago coronopus L.*) or couch-grass (*thîl* ثيل, *Agropyrum repens Beauv.*). They are astringent. Its root is very thin like hair, white and having a vinous odour ; it grows on hills.

GALEN VII (XII, 88) : It is desiccative and astringent, and is drunk with wine against muscular contractures.

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(1) For other names *see* ISSA, p. 126.

(2) The name *fesliyen* is a Turkish corruption of *basilikon*.

(3) Probably so ; IB. (Arab, text I, 67 last lines) spells *una bâga* اونه باجه ; this Spanish name is said to be used by IBN HASSÂN (IBN GULGUL). The name refers to the use of the plant for making meat-jelly. *See* SIMONET p. 565.

poly-germander, mountain-germander, cat-thyme, hulwort; Fr.: polium, pouliot de montagne, germandrée tomenteuse; Germ.: Poley-Gamander, grauer Gamander.

209. Gamsibram جمسبرم, (Ocimum filamentosum Forsk.?).

(LECL. Nos. 511 and 1075).

It is a kind of lily resembling southern-wood (*qaisûm* قيصوم, *Artemisia Abrotanum*).

IBN SÎNÂ (I, 286): It is aperient, carminative and depurative. Its faculty is like that of wormwood (*shîh* شيح, *Artemisia judaica*).

COMMENTARY

The identity of this plant-name is not yet established. Sontheimer thought it was the labiata *Ocimum filamentosum Forsk.*, a kind of basil. But the Persian dictionaries speak of a creeping plant and take it for a kind of bindweed.

IB. states that the name *gamsafram* جمسفرم is said to be identical with *raihân Sulaimân* ريحان سليمان, and this is true. VULLERS (I, 525) explains that *Jam* جم is in Persian the name of King Solomon, *isparam* اسپرم (1) the same as Arabic *raihân* ريحان, *i.e.* basil.

IBN SÎNÂ gives two articles on this plant, one (I, 286) under *gamsifram* جمسفرم without a description, the other under *raihân Sulaimân* (I, 368) in which he says: " It is a plant growing in the mountains of Isfahân, resembling moist-dill (*shibith* شبث). It is said that its leaves are like those of marsh-mallow (*khatmî* خطمى) and that its buds are small. It is twisted round trees in the same manner as the bindweed (*liblâb* لبلاب). It is quite possible that the second record refers to the plant called *gamsifram*. Common people think that *Jam* جم, is identical with Sulaimân." Then follow the medical uses of the plant, especially for wounds and scorpion-stings.

(1) The name for *basil* is in Persian originally *isparaghm* اسپرغم from which all the other varieties of synonyms are derived.

GALEN VIII (XII, 106): It has a bitter and a slightly sharp taste. It opens obstructions, is diuretic and emmenagogue and heals extensive contusions. The white kind is more effective in the cure of indolent ulcers.

DIOSC.: The decoction of both kinds is useful for the sting of poisonous insects, for dropsy, jaundice and —taken with vinegar— for the spleen.

COMMENTARY

There is no doubt that the small πόλιον (*pólion*) described by DIOSC. is the labiata *Teucrium Polium L.* (cat-thyme, hulwort, mountain-germander), the large *Teucrium capitatum L.* (headed germander). PLINY (XXI, 44) confuses these plants with *Tripolium*. The πόλιον of THEOPHR., too, seems to be another plant, as it was evergreen and used against moths and for caprification. Both plants are common in South Europe and also in the mountainous regions of Asia.

The Oriental authors mostly repeat DIOSC.'s description. IBN SÎNÂ (I, 285) recommends it against fevers, IDRÎSÎ (I, 83) as a vermifuge. DÂWÛD (I, 208) gives a Berber name of the plant and a description of a such precision that proves he knew it well. He says that it blossoms towards the end of the month of *Hazirân* (February), must be plucked fresh, but that it loses its activity after the lapse of eight months. He recommends it as an antidote. It is not used nowadays. The Arabic name is derived from *ga'ad* جعد, *i.e.* "woolly curled hair."

MAIM. (*fol.* 80 *v.*) gives the diminutive *gu'aida* جعيدة.

SYNONYMS: Gr.: πόλιον (*pólion*), τεύθρον (*teúthron*, DIOSC.); Lat.: polium silvestre, polium campestre (PLINY); Copt.: ⲗⲁⲓ; Berber: *ârtâlîs* آرطاليس (DÂWÛD); Ar.: *gu'da*, *ga'da* جعدة, *taraf* طرف, *misk al-ginn* مسك الجن (ISSA, p. 179), *mustiyân* مستيان (Lower Egypt, SCHWEINF.), *gu'aida* جعيدة (MAIM.); Pers.: *ju'da* جعده (ABU MANSÛR, p. 180), *haziya* هزيه (Turkish Anonymous); Turk.: *Meryem sachi* مريم صاچى ("Mary's hair," Turkish Anonymous); Eng.

Its names were numerous among the Greeks, Romans, Arabs and Persians (*see* synonyms). It is a curious fact that the genitive of the Greek name *daukos* was adopted by the Arabs as the name of the seeds of the wild carrot (*dauqû* دوقو), probably taken from δαύκου ἀγρίου σπέρμα (*daukou agríou sperma*) GALEN); *see* 'ABD AR-RAZZÂQ, LECLERC's version, p. 99.

SYNONYMS: Gr.: δαῦκος (*daukos*), σταφυλῖνος (*staphylînos*) κέρας (*kéras* "horn," the wild carrot), δαυκίς (*daukís*, Geoponica); Lat.: daucus (Scrib.Largus), pastinaca Gallica (PLINY), pastinaca erratica (wild carrot, PLINY), siser (PLINY); Ar.: *gazar* جزر, *istuflîn* اسطفلين (Maghrib and Syria), *asfanâriya* اسفنارية (Tunis, 'ABD AR-RAZZÂQ), *zurûdiyya* زرودية (1) (the same), *khîz* خيز (the same), *gazar barrî* جزر برى (wild carrot), *hinzâb* حنزاب, *hunzûb* حنزوب (wild carrot, AL-ASMA'Î II, p. 16), *dauqû* دوقو, (its seed), *sabâhiyya* صباحية (MAIM), *bahârina* بحارنة (wild carrot, MAIM.); for other names *see* ISSA, p. 69; Pers.: *gazar* گزر, *jazar* جزر, *zardak* زردك (*i.e.* "yellowish"), *zardak nahshak* زردك نهشك (MAIM, VULLERS II, 1380), *huwêj* هويج (NAFICY I, 264); Turk.: *jezer* جزر, *hâ'ûj* هاوج (SAMY (2); Eng.: common carrot, parsnip; Fr.: carotte; Germ.: gemeine Möhre, Karotte, gelbe Rûbe, Wurzel.

208. Ga'da جعدة, *Poly-Germander*, *Hulwort* (Teucrium Polium L.).

(LECL. No, 488).

DIOSC. III (110): πόλιον (*pólion*). There is a mountain kind called τεύθριον (*teúthrion*), which is in use. It is a small, white θάμνος (*thamnos*, shrub) with tiny leaves, about a span high and full of seeds (3). On its top is a small tassel which is not globular, and with something like white hair. It is a plant of a heavy smell, but with a slight aroma. There is another kind, bigger than the first, though of a fainter odour.

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(1) The Modern Spanish name *zanahoria* is a remainder of this word

(2) AVNI (p. 104) erroneously spells حاوج.

(3) In DIOSCURIDES' text: "full of fruits."

Diosc. III (52): σταφυλῖνος (*staphylînos*). It is a plant whose leaves are like those of fumitory (*shâhtarag* شاهترج), except that they are broader, and its taste is not bitter. Its growth is erect and it has an umbel like that of dill (*shibith* شبث) with white flowers. In the middle of the blossom there is something resembling cotton, of purple colour. It has a root in the thickness of a finger (*fol.* 27 *v.*) and about one span long. It is of a fragrant smell and is eaten cooked.

Galen VI (XI, 862): The wild carrot is less frequently eaten than the cultivated one, but it is more active. Its faculty is the causation of flatulence and the excitement of aphrodiasis. The seeds of the wild kind are diuretic and emmenagogue.

Agriculture: A wine is prepared from it, which is intoxicating; when abused, it causes suffocation being harmful to the throat and chest. The wild carrot expels vermin when suspended on the door of a habitation.

COMMENTARY

The carrot is a very old food of mankind. It is wide-spread as a weed in Europe, and in the Orient from the Mediterranean regions to the mountains of Abyssinia and to the Himalayas. The root of the wild kind of this umbellifera (*Daucus Carota L. var Boissieri Wittm.*) is thinner and harder than the root of the cultivated one. Its medicinal preparations were very numerous, *viz.* decoction, paste, compresses for ulcers, etc. In recent times the juice is used for supplying artificially nourished babies with the necessary vitamin A. The root and fruit were in former times official drugs (*Radix, Fructus Dauci*).

In Ancient Greece it was used as an offering to the god Apollo, and in India still forms a part of the oblations in certain festivals (Dymock II, 134). The Hispano-Arab Ibn al-ʿAwwâm (II, 176–9) gives a detailed description of its Mediæval culture.

a myrrh-like smell is exported to Europe by way of Syria. As far as we can tell, it is now very common in the drug-bazaars of the Near East.

Most of the Oriental authors simply repeat DIOSCURIDES' description, adding remarks on the medicinal use of opopanax. DÂWÛD alone (I, 201) gives a new and good description of the plant. He describes the dill-like umbel, but expressly says that the opopanax used in his time (XVIth cent.) and imported from Persia was reddish-black outside (not saffron-yellow) and soluble in vinegar-water. He recommends it as a remedy against lead-colic (*qawlang rasâsî* قولنج رصاصي). 'ABD AR-RAZZÂQ (p. 86) gives the Berber name for opopanax: *tâfarfar* تافرفر. The name *barûtha* بروثه which we see in our MAIM.-MS. is perhaps a mutilation of Syriac *bârûrâ* بارورا (LOEW III, 458 foll.).

SYNONYMS: Gr.: πάνακες (*pánakes* the plant, THEOPHR., DIOSC.), πάναξ (*pánax*, GALEN), ὀποπάναξ (*opopánax*, the resin); Lat.: panaces (the plant, PLINY), opopanax (the resin) (1); Ar.: *gâwashîr* جاوشير, *halîb al-baqar* حليب البقر (Egypt, DÂWÛD), *bərûra* برورة (MAIM.); Pers.: *jâwshîr* جاوشير, *gâwshîr* گاوشير; Turk.: same names and *châwshîr* چاوشير (SAMY); Berber: *tâfarfar* تافرفر ('ABD AR-RAZZÂQ); Eng.: opopanax; Fr.: same name, and gomme-résine opoponax; Germ.: Opoponax, Panaxharz, Heilwurzsaft.

207. Gazar جزر, *Carrot*, *Parsnip* (Daucus Carota L.) (LECL. No. 481).

AGRICULTURE (2): The cultivated carrot has a red kind which is more full of juice and more palatable, and a yellow kind which is thicker and rougher. The wild carrot grows near water, though it is sometimes found in the desert; but this is rare. It resembles the cultivated (kind).

(1) The Greek and Roman physicians distinguished panakes Herakleion, Achilleion, Cheironion, Ligusticum, etc., which we are to-day unable to identify.

(2) GEOPONICA XIII: δαυκίς (*daukis*).

on leaves spread out (and) in pits dug in the earth. They sometimes scarify the stem at harvest-time and collect the resin that flows in the same manner. The choicest gum is the bitterest. It must be white inside and saffron-coloured outside, and stick to the hand when rubbed with the fingers. It quickly dissolves in water, and is of a strong smell. It is adulterated with gum-ammoniac (*washaq* وشق) and wax (*mûm* موم). This can be tested by kneading it with the fingers in water. The good kind mixes with water and becomes like milk. Its faculty is heating, sedative and emollient.

GALEN VIII (XII, 94 foll.) : The root of the opopanax-plant is desiccative and heating, but less than the opopanax (resin) itself. It is detersive and good for affections requiring a flesh-producing remedy such as abscesses. Its fruit is hot and emmenagogue (1).

COMMENTARY

Gâwashîr is the Persian Arabicised name for the Greek ὀπο-πάναξ (*opopánax*), the gum-resin of the umbellifera *Opopanax Chironium Koch* (or *Ferula Opopanax Spr.*); the Greek name πάνακες (*pánakes*) of the plant means "all-healing." It was already known to THEOPHRASTUS. The flower-umbels are yellow. The resin was formerly a much used drug against catarrhal and haemorrhagic diseases. It is a European plant, different from *Opopanax persicum Boiss.* (2), which is probably the plant producing the resin called by the Persians *gâw-shîr* گاوشیر (*i.e.* "cow's milk"). This drug is still sold in Oriental bazaars, and is vulgarly called in Cairo *gawâshîr* جواشير or *halîb al-baqar* حليب البقر (DUCROS, p.35)(3). There is, however, an Arabian *opopanax* which is almost the only kind in European commerce, and is a product of a quite different plant, the burseracea *Commiphora Kataf Engl.* The plant is a relative of the balm of Gilead, and its gum-resin which has

(1) This chapter of GALEN has been very much abridged by BH.
(2) POLAK (Persien, Leipzig, 1865, II, p. 289) calls the plant *Diplotaenia cachrydifolia Boiss.*
(3) This is an Arabic name for "cow's milk."

and the long zedoary of commerce are both products of *Curcuma Zedoaria.*

The plant is now cultivated in India, China, Java and Madagascar. The drug *Rhizoma Zedoariae* has a camphor taste and smell. It is used in India mostly as a cosmetic. In Europe it is used for the manufacture of bitter medical liquors.

SYNONYMS (of the genuine zedoary): Gr. (Medieval): ζουρόμβεδ (*zurómbed*), ζέδοαρ (*zedoar*, AETIUS), τζετουάριον (*tzetuarion*, NICOLAS MYREPSOS) [1]; Ar.: *gadwâr* جدوار, *zarunb* زرنب *'irq el-kâfûr* عرق الكافور (Cairo drug-bazaars); Pers.: *zadwâr* زدوار, *jadwâr* جدوار *mâh-parwîn* ماه پروين, *mâh-farfîn* ماه فرفين, *zurunbâ* زرنبا, *parpîn* پرپين, (all by VULLERS II, 122); Turk.: *jedvâr* جدوار; Eng.: zedoary; Fr.: (curcuma) zedoaire, gingembre bâtard; Germ.: Zitwerwurzel.

206. Gâwashîr جاوشير, *Opopanax* (Opopanax Chironium Koch.).

(LECL. No. 459).

DIOSC. III (51): Πάναxες Ἡράκλειον (*Pânakes Hêrákleion*). It grows mostly in Boeotia and in the town of Psophis in Arcadia, and is cultivated in gardens on account of the high price paid for its resin. It has rough leaves near to the soil, intensely green like fig-leaves, round and dentate with five dentations. Its stem is long like that of dorema (*kalakh* كلخ), covered with down like white dust and producing very small leaves. The seeds are fragrant and sharp. It has many roots branching out from one main root; they are white with a heavy smell and are covered with a thick bark of bitter taste. It grows (also) in Kyrene of Lybia and in Macedonia. The resin of this plant is extracted by scarification of the wood when the plant first grows. The colour of the gum is white, but when dried it looks saffron-coloured on the outside. When the resin flows it is collected

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[1] These names probably designate not zedoary but turmeric.

Aconitum Anthora L. which is called " wholesome aconite " (1). Their bulbous roots are small and not similar to the rhizoma of zedoary.

IDRÎSÎ (p. 89, No. 194) cites IBN GULGUL that the Spanish *gadwâr* or *anthula* انثلة (*sic* !) is frequent on the mountains of Andalusia and grows together with aconite.

DÂWÛD (I, 205), says that it is an Indian drug and of five kinds : " One, which is of violet colour, becomes outwardly grey ish when rubbed against any object. He who swallows it feels a sensation of burning in his tongue and lower lip, of about one degree (*i.e.* of the Galenic dynamometric scale of remedies) ; it then passes away. It is lank like a little horn, and is a little curved. It is imported from *al-Khatâ* الخطا (2), one of the boundaries of China. The second kind has the same colour and curvature, but is granular on the outside. It is imported from Cambay (3). The third is red like a thumb, of granular subsistence, and is imported from Deccan (4). The fourth has the size of an olive, with one end thin and the other end thick and its colour is inclined to black. If rubbed against (the inner side of) the lid it provokes lacrymation and heaviness. It is called by the Egyptians *an-nirbis* النربس (5). The fifth consists of pieces of one span long, which are black, smooth and intensely bitter ; they are called *al-antula* ...." This description may have been partly extracted from late Persian medical works (mentioned by DYMOCK III, 399 foll.). In DÂWÛD's lifetime, the XVIth cent.— the first knowledge of zedoary, turmeric and other curcumas came to the West through Portuguese traders and mariners (Odoardo Barbosa). DYMOCK (III, 401) is convinced that the round

(1) Spanish *antora* or "aconito saludable," Germ. "Giftheil," Dutch "tegengiftige monnikskap."

(2) Probably "Cathay" the present Indo-Chinese peninsula.

(3) Near the present Bombay, in British India.

(4) Central India.

(5) In the text *at-tirbis* التربس, copyist's error.

(*shaggârûn* شجارون) call *al-faihaq* الفيهق ([1]) ; we shall mention it under the *Letter Fâ'* فاء. The black is round, black outside, white inside and a little yellowish. Its leaves are like those of burnet (*kuzbarat ath-tha'lab* كزبرة الثعلب, *Poterium sanguisorba L.*). With it grows *at-tawâra* which it resembles, except that it is redder.

COMMENTARY

There is a considerable confusion of names and facts in the above paragraph, mainly due to different varieties of the drugs called *gadwâr* = zedoary. IB., therefore, rightly divided the contents of this section into two main paragraphs.

The Persian name *zadwâr* زدوار from which the Arabic *gadwâr* جدوار is derived designates the zingiberacea *Curcuma Zedoaria Rosc.*, the zedoary (formerly also called setwall). It is, like all the curcumas, an Indian plant, and its rootstock was only known to the physicians and druggists of the Near East. It was well known to the Indian practitioners under the Sanscrit names of *sati* and *krachura*. IBN SÎNÂ is right when he compares its root to that of aristolochia. All the other Persian and Arabic authors agree that it is an excellent antidote for poisons. As mentioned before ([2]), an Indian myth says that the wild aconite (*bîsh*), when growing near the *gadwâr*, loses its poisonous properties and is eaten with impunity by the inhabitants of the Himalayan mountains (DYMOCK III, 400). It seems, however, that this myth can be explained by the simultaneous occurrence on the Himalayas of poisonous and non-poisonous aconites growing side by side. The belief was transferred to Spain. The name *tawâra* طواره of a kind of aconite may have been confused with *jadwâr* which, in Turkestan, is still to-day a name for the monk's hood (*Aconitum Napellus L.*) (DRAGEND., p. 226). The antagonistic plant, *antula* ([3]), is considered to be the non-poisonous

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([1]) Probably a mis-spelling for *al-faigan* الفيجن, *i.e. pêganon.*

([2]) *See* chapter on *Bish* No. 182, p. 342.

([3]) The name may be Spanish ; according to SIMONET (*Glosario de voces ibericas y latinas usadas entre los Mozarabes*, Madrid 1888, p, 18) it is derived from Greek *antiphthorâ* (=" against destruction ") ; and *tawâra* is derived from *phthorâ* (Simonet p. 548).

dawâ' al-hayya دواء الحية, *thûm al-hayya* ثوم الحية (1), *kaff adh-dhî'b* كف الذئب ("wolf's claw"), *kaff al-arnab* كف الأرنب ("rabbit's foot," Issa, p. 86), *bashilishku* بشلشكة (basilisco, Spanish); Pers.: same names and *kûshâd* or *gûshâdh* كوشاذ; Turk.: *jentiyané* جنطيانه; Eng.: gentian, yellow gentian; Fr.: grande gentiane, gentiane jaune; Germ.: gelber Enzian, Bitterwurzel; Span.: genciana mayor, genciana del rey (2).

205. Gadwâr جدوار, *Zedoary* (Curcuma Zedoaria Rosc.): (Lecl. Nos. 467 and 174; moreover 1479).

Ibn Sînâ (I, 287): They are small fragments in the size and shape of aristolochia (*zarâwand* زراوند), though thinner. They grow together with wild (Indian) aconite (*bîsh* بيش) and are an antidote for all poisons.

Ibn al-Kattânî (3) and other modern authors called it *al-antula* الانتلة; the wild aconite which grows with it is *at-tawâra* الطوارة. It consists of roots which are like small acorns, and is useful against poisons and colic. Growing with it is *at-tawâra*, which is a deadly and quick (?) poison. These plants grow so near to each other that he who sees them thinks that they come from one and the same root, on account of their likeness. This poisonous herb is sweet, but *al-antula* is bitter; the latter is a marvellous antidote (*diryâq* درياق) which can be a substitute for the *fârûq-antidote* درياق الفاروق. Sometimes sheep feed on the poisonous herb, and as soon as they feel the effect of the poison, they eat of the *antula* and thus are saved.

Author: *Al-antula* is in our land (Spain) to-day of two kinds; one is known as black *antula* انتلة سوداء, taken to be the zedoary, and the other the white, which some of the herborists

(1) The meaning of these terms is "serpent's medicine" and "serpent's garlic" ('Abd ar-Razzâq, p. 96).

(2) This latter name is according to 'Abd ar-Razzâq (p. 95).

(3) His name is often mis-spelt Ibn al-Kinânî: Gh. and Idrîsî call him ابن الكتاني. He is Abû 'Abdallâh Muhammad, born in Sicily (Catania ?) and immigrated into Spain in the Xth cent. A.D. He lived in Cordova where he was a distinguished practitioner.

mountains in the Balkan Peninsula. It is a strong root-stock, sometimes 60 cms. long and 4 cms. thick, containing a bitter glucoside gentiopicrin and gentianic acid, with an etheric oil and a mucilaginous substance (1). The Persian kind mentioned by IBN 'IMRÂN may have been a variety of *G. lutea or G. asclepiadea L.* or the Cashmirian *G. Kurroa Royle* (DYMOCK II, 510) Gentian had in former times a great reputation as an antidote against poisons, poisonous stings and the bite of rabid dogs. It is possible that from this belief comes the Modern Greek (?) name of *basiliskon* and the Spanish name of *basilisco* which are mentioned only by the Arabic authors IBN WÂFID, GH., MAIMONIDES and IB. The Arabic name *dawâ' al-hayya* دواء الحية ("snake remedy") is significant of its pretended action.

The Cairo bazaar-druggists sell the root of *Gentiana lutea* in fragments of about 2 cms. long under the name of *khashab gintiyâna* خشب جنطيانة. It is used as a stomachic, cardiac tonic and wound-healing remedy (DUCROS, p. 37 foll.).

The old Persian and Arabic authors give good descriptions of the reddish-brown root of gentian with the yellow surface of its fracture (2), but none of them had ever seen the plant which grew far from inhabited places in the mountains. Due to this fact, ABÛ-MANSÛR (ACHUNDOW, p. 180 and 185) believed gentian to be "the root of the Roman colocynth" (*al-hanzal ar-rûmî* الحنظل الرومى). The confusion comes without doubt from the very bitter flavour of the gentian-root and the colocynth-fruit.

DÂWÛD (I, 214) says that gentian reaches maturity in the months of *Ab* and *Aylûl* (3), that the root preserves its properties for three years and that the juice, stored up in earthen receptacles, can continue to be efficient for seven years.

SYNONYMS: Gr.: γεντιανή (*gentianê*), βασιλίσκον (*basiliskon*??, only by Arabic authors); Lat.: gentiana; Ar.: *gantiâna* جنطيانة,

(1) For its other constituents *see* H. G. GREENISH, *Materia Medica*, fourth edition, (London, 1924) p. 355 foll.

(2) *Qânûn* IBN SÎNÂ I, 283.

(3) Syriac names for August and September.

(*basilískon*) [1] and in Spanish vernacular *basilisco*. IBN WÂFID [2] asserted that *basilisco* is (identical with) the gentian described by DIOSCURIDES; but this was an error.

DIOSC. III (3) γεντιανή (*gentianê*). It is said that the first who knew this remedy was Gentis, king of the Russians [3] and that the name of this remedy is derived from his name. It is a plant whose leaves, that are near the root, resemble those of the walnut-tree or the leaves of the way-bread (*lisân al-hamal* لسان الحمل, *Plantago major L.*). Their colour is almost blood-red. Those of the leaves that are in the middle and at the end (of the stem) are slightly dentate [4], especially those that are near to the top. It has a hollow stem, smooth and as thick as a finger. It is about two cubits high, knotty and with sparse leaves on it. It has many flowers [5] and fruits in large calyces (cones), as light as the fruit of σφονδύλιον (*sphondýlion*, hog-weed, *Heracleum Sphondylium L.*). It has a long and thick root resembling that of aristoloch (*zarâwand* زراوند). It grows on lofty mountains, in the shade and in watered places.

GALEN VI (XI, 856): Its root is strongly refining, detersive, and aperient to obstructions. This is not to be wondered at, as it is intensely bitter.

DIOSC.: The dose of one drachm of it with pepper and rue is useful against (*fol.* 27 *r*) the bite of venomous animals, pain in the chest, liver and stomach. As a pessary, it is abortive.

COMMENTARY

The drug in question is the root of one of the kinds of gentian. That described by DIOSC. is *Gentiana lutea L.*, the yellow gentian which may have been originally a native of the

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(1) In the text *baslasqân* بسلسقان; the spelling is not quite sure; the following word is spelt *bashlashka* بشلشكة, but MAIM. gives the vocalisation *bashilishka*.

(2) *See our Introduction*, p. 23, No. 40.

(3) In DIOSC's text: Illyrians.

(4) This is not quite correct, as all the gentians have ovoid, but not dentate leaves.

(5) Missing from DIOSC's original text.

(*thyrsîtis*, *thyrsînê*, DIOSC.) ; Lat. : orobanche ; Ar. : *ga'fîl* جعفيل, *gu'aifil* جعيفل (? Gh.), *asad al-'adas* اسد العدس, *hashîshat al-asad* حشيشة الاسد, *khâniq al-karsana* خانق الكرسنة (1), *da'fîlâ* دعفيلا (ISSA, p. 131) ; Pers. : *'alaf jârû* علف جارو ("grass-broom," NAFICY II, 300) (2) ; Turk. : *süpürge otu* سپورکه (سو پورکه) اوتى (*i.e.* "broom-plant," SAMY, p. 1089) ; Eng. : broom-rape ; Fr. : orobanche, herbe du lion ; Germ. : Orobanche, Sommerwurz.

204. Gantiyânâ جنطيانا, *Yellow Gentian* (Gentiana lutea L.) and others.

(LECL. No. 515).

IS-HÂQ B. 'IMRÂN : There are two different kinds of gentian, one is a herb that grows on mountains and in cold, wet and snowy places ; this is the Greek (*rûmî* رومى). The other is that of *Jurmaqân* الجرمقانى (3). It is like sorrel (*hummâd al-baqar* حماض البقر, *Rumex Patientia L.*) and has a black root which is somewhat bitter. It equally grows in damp places.

AUTHOR : The gentian mentioned by DIOSCURIDES is the second of these two kinds. The first kind is much more used in our land, Andalusia, than the second. It is found in the Sierra Nevada (4) and in the region of Saragossa (*Saraqusta* سرقسطة). It is the root of a shrub with thin branches and tiny leaves. The root is intensely bitter, much more so than the second kind and more active. It is said that this kind of gentian is Persian. It is called in Persian *kûshâdh* كوشاذ and in Greek βασιλίσκον

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(1) As to the meaning of these names *see* above p.

(2) NAFICY and HANDJÉRI give, moreover, the name of *bîqiya* بيقيه, but this must be a mistake, as the latter name designates tufted or bitter vetch. *See* above chapter 131 (*bîqa*).

(3) The MSS. of IB. mis-spell this name الخرمقانى والجرمعانى and so on. According to *Yâqût* (III, 280 foll.) *Shurmaqân* شرمقان or *Charmaqân* جرمقان is the name of a small town in the mountains of Khurâsân (East Persia) near Isfarâyîn.

(4) In Arabic *Gabal Shulair* جبل شلير ; mis-spelt in MSS. T. and G. ; IB. calls it *Gabal Shakar* and LECLERC left it out.

but rather yellow. Its root is as thick as a finger. It grows during the dryness of the summer season. It is sometimes boiled and eaten like asparagus (*hilyawn* هليون), and sometimes eaten raw. It is believed that if mixed with other grains, it accelerates their cooking.

GALEN VII (XII, 92): It is desiccative and refrigerant in the second degree.

COMMENTARY

The plant in question is one of the kinds of broom-rape, *Orobanche*. THEOPHR. (VIII, 8, 4) described, under this name, the dodder (*Cuscuta europaea*), but this latter plant bears in DIOSCURIDES' *Materia Medica* the name of ἐπίθυμον (*ephíthymon*)(1). His *orobanchê* corresponds to *Orobanche grandiflora Bory*, a parasitic root-plant which is frequent in Greece where it still bears in our days the name of λύκος (*lykos*, " wolf ") because it kills what is sown (BERENDES 230). The broom-rape, whose shoots are eaten like asparagus, is *Orobanche caryophyllacea Sm.* These two kinds correspond best to DIOSC.'s description; but there are still others which are in medicinal use, *e.g. Orobanche alba Steph.* and *Orobanche gracilis Sm.* (DRAGEND., p. 613), both used against colic, spasms and nervous affections. Its official name was *Herba leonina.*

As to the meaning of the name *ga'fîl*, all European dictionaries are silent; but in LÎSÂN (XIII, 119) we find that the root جعفل has the meaning of " to overthrow and to fell down." The other Arabic names are mostly translations from Greek.

Later Arabic authors did not provide any valuable contribution to the knowledge of this drug. IB. gives as an Egyptian Arabic name *hâlûk* هالوك, *i.e.* " destroyer," which is in all probability Coptic ϩⲁⲗⲟⲩⲕ, *see* Labib's Dictionary.

SYNONYMS: GR.: ὀροβάγχη (*orobánkhê*) κυνομόριον (*kynomórion, i.e.* "dog's penis"), λέων (*léôn*, " lion "), θυρσῖτις, θυρσίνη

(1) *See* above, chapter 80, pp. 179–182.

baqlat 'Â'isha بقلة عائشة (1), *hadîf* حديف (Yemen, Issa, p. 77), *rôka* روكة (Schweinf.), *kathâ'* كثاء (Maim, *fol.* 81 *r*). The wild rocket: *girgîr barrî* جرجير برى, *aihuqân* أيهقان, *nahaq* نهق (Issa, p. 32); *khardal sahrâ'î* خردل صحرائى ("mustard of the desert," Vullers I, 153); Pers.: *aihuqân* ايهقان, *kakiz* ككيز, *kakish* ككش, *kîkîr* كيكر, *kîkîz* كيكيز, *kîkîsh* كيكيش, *kîkîj* كيكيج, *kîkîch* كيكيچ, *kaikir* كيكر, (Vullers II, 937), *tara mîrak* تره ميرك (2), *tara taizak* تره تيزك, *andâw* انداو (Vullers I, 129); Turk.: *roqa* روقه; the wild kind: *jabani roqa* يابانى روقه; Egypt.: [hieroglyphs] *galim*; Copt.: ϣⲗⲏⲙ أو ϭⲗⲏⲙ (Labib Dictionary, vol. V, *infra verbum*); Eng.: rocket, bastard rocket, wild rocket; Fr.: roquette (sauvage), chou erucastre; Germ.: Rauke, Rocke, Rauken-senf.

203. Ga'fîl, جعفيل (3), *Broom-Rape* (Orobanche).

(Lecl. Nos. 201 and 489).

It is called "the lion's herb" (*hashîshat al-asad* حشيشة الأسد) "lentil's lion" (*asad al-'adas* اسد العدس) and "strangler of the bitter-vetch" (4) (*khâniq al-karsana* خانق الكرسنة), because it kills turmeric (*wars* ورس) and bitter-vetch (*karsana* كرسنة) if it grows amongst them.

Diosc. II (142): ὀροβάγχη (*orobânkhê*) or strangler of the bitter-vetch is so called because if it grew near to any kind of seeds, it killed all (the plants) in its vicinity. It is also called κυνομόριον (*kynomórion*), and the Cypriots call it θυρσίνη (*thyrsînê*) (5). It is a reddish stalk about two spans or more in height. It has leaves (6) which are viscous and covered with tender down. The colour of its blossom is not inclined to white,

(1) *i.e.* "the vegetable of 'Â'isha" (the favourite wife of the prophet Muhammad).

(2) Name used in Sistân سيستان (South-east Persia).

(3) T. reads *gu'aifil* جعيفيل, but G., IB. and all the later authors spell it *ga'fîl* جعفيل.

(4) Translation of the Greek name *orobanchê*.

(5) Wellmann's new edition of Diosc. reads θυρσῖτις (*thyrsîtis*).

(6) Diosc. says that it has no leaves; the leaves are reduced to scales on the stem.

COMMENTARY

This is the crucifera *Eruca sativa Lam.* and its wild variety, frequent in Europe, cultivated on account of their seeds which are sharp and act as substitutes for mustard, and in Central and North-west India for the production of lamp-oil ([1]). In warm climates the seeds are richer in oil than in the North. Its medicinal action is like that of mustard. It was an official drug (*Herba* and *Semen Erucae*). The different kinds of *girgîr* described by the old authors may have been wild-grown varieties of *Eruca*, but also *Erucastrum Pollichii Schimp. & Spenn.* and the like.

The Greek name *eúzomon* means " good broth-maker." The Arabic *girgîr* comes from a root that designates several plants (*girgir* = broad-beans, *gurgur* = ripe olives) ([2]). The Persian name *aihuqân* seems to be a corruption of Greek *eúzomon* (VULLERS I, 153). The word *aihuqân* was probably in turn corrupted to Greek (Byzantine) ἐρούκαμ (*erûkam*) and Latin *eruca* (VIRGIL). IDRÎSÎ (p. 85) takes *aihuqân* for an Arabic name and gives the Persian term *kabkîr* ﺑﻜﻴﺮ, a mis-spelling for *kîkîr* كيكير. It is interesting to mention that rocket is recommended by IDRÎSÎ as an antidote against the bite of the weasel ([3]), which was supposed to be poisonous.

IBN AL-'AWWÂM (II, 301 foll.) gives details on the cultivation of rocket.

DÂWÛD (I, 206) ascribes to rocket a certain action against poisons and the bite of rabid dogs.

The great number of names existing for cultivated and wild rocket in Persian is remarkable.

SYNONYMS : Gr. : εὔζωμον (*euzomon*, THEOPHR., DIOSC.); Lat. : eruca (VIRGIL, PLINY), uruca (PLINY) ; Ar. : *girgîr* جرجير (pronunciation in Modern Egypt *gargîr*), *girgir* جرجر, *gargâr* جرجار,

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([1]) DYMOCK I, p. 130.

([2]) Perhaps from Assyrian *gingiru* (LOEW I, 491).

([3]) *See* above, chapter 114 (IBN 'IRS).

202. Girgîr جرجير, *Rocket* (Eruca sativa Lam.) and others. (Lecl. No. 473).

Agriculture [1] : The rocket is of two kinds cultivated and wild. Each of them has also two varieties. The first variety of the cultivated rocket has broad leaves of pistachio-colour, is slightly acrid, tender and fragrant. The second has narrow leaves with dentate edges and is strongly acrid. The first of the two wild varieties has leaves like those of mustard (*khardal* خردل) and is very acrid. It is collected in the month of *Hazîrân* حزيران [2]

Another Author [3] : The wild rocket is *al-aihuqân* الأيهقان. There are two kinds of it, one *al-harshâ'* الحرشاء ("the rough"), which some people call wild (*fol* 26 *v*) mustard (*khardal barrî* خردل برى). It is a shrub standing on a green stem with leaves that are rough to the touch like those of radish (*fugl* فجل), its blossoms small and yellow, compact, following the grains in long (husks) [4]. It is strongly acrid and is eaten with feculents The second kind has red flowers.

Abû Hanîfa : *Al-aihuqân* is the wild rocket ; it is a shrub which grows during winter, has a red flower and broad leaves ; it is eaten but is bitter.

Diosc. II (140) : εὔζωμον (*eûzomon*). Its continual use as food increases the inclination for coitus, and so does its seed. The latter is diuretic, stomachic and aperient.

There is also a wild kind of rocket in the west of the land of the Khazar [5], where the inhabitants make use of its seeds instead of mustard. It is more diuretic and more acrid than the cultivated (rocket).

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[1] Geoponica XII, 10.

[2] The Syrian month of February.

[3] IB. (Lecl. I, p. 349) falsely attributes this paragraph to Gh. himself.

[4] This word is missing from T. and replaced in G. erroneously by "twigs."

[5] *i.e.* Southern Russia ; IB. reads Khûz, *i.e.* South-west Persia ; the original text of Diosc. reads, however, Iberia, *i.e.* Spain.

The name *gâwars* or *gâwarsh* جاورش is Persian (*gâwars* كاورس) and perhaps cognate with Greek *kenkhros*. It has been discussed as an aliment and remedy by Abû Mansûr (p. 177).

Ibn Sînâ (I, 288) speaks of three kinds of millet, without giving their description. Dâwûd (I, 201–2) says that in the Sudan the natives extract from millet a sweet juice. He describes three kinds: one is yellowish with grains of the size of a lentil; the second oblong, small, rice-shaped, and the third round with well-separated grains. The first is said to be the best, and the last the worst. There are, indeed, many varieties of millet, but Dâwûd and other Oriental writers often confused millet with "Egyptian or Indian millet" (*gâwars hindî* جاورس هندى, *Sorghum vulgare Pers.*) and other kinds of *Panicum*; the sweet kind mentioned by Dâwûd is probably *Sorghum saccharatum Pers.*

Ibn al-ʿAwwâm (II, 74–77) renders *gâwars* by the Arabic *dhura* ذرة, which is incorrect. His *dukhn* دخن is, according to Clément-Mullet, *Panicum italicum L.*, corresponding to Greek ἔλυμος (*élymos*).

Maimonides (*fol.* 80 *v*) says that *gâwars hindî* جاورس هندى (Indian millet) is sorghum (*dhura*).

Synonyms: Gr.: κέγχρος (*kénkhros*, Theophr, Diosc.); Lat.: milium (Virgil, Pliny, etc.); Ar.: *gâwars* جاورس, *gâwarsh* جاورش, *dhura* ذرة (Ibn al-ʿAwwâm), *dukhn* دخن (in reality the name for sorgho), *taʿâm rûmî* طعام رومى (Yemen, Schweinf. p.188), *duʿâʿ* دعاع (Yemen, Issa), *dhura hamrâ'* ذرة حمراء (Syria, Dâwûd), *dhura baidâ'* ذرة بيضاء (Naficy); Pers.: *gâwars* كاورس, *arzan* ارزن, *alum* الم, *pag* پك, *basal* بسل, *gala* كلا (all these names are given by Vullers II, 947; they probably designate different kinds of *Panicum* and *Sorghum*); Turk.: *jâwers* جاورس, *dârî* دارى; Copt.: ϣⲉⲗⲧⲁⲙ = شلجم; Eng.: millet, panic-millet, panic-grass; Fr.: millet, mil; Germ.: echte Hirse, Rispenhirse;

201. Gâwars جاورس, *Millet* (Panicum miliaceum L.).
(Lecl. No. 460).

Ibn Wâfid : It is a kind of sorghum (*dukhn* دخن, *Andropogon Sorghum Brot.*) with small grains, strongly astringent and of grey colour.

Diosc. II (97) : κέγχρος (*kénkhros*). It is the least nutritious amongst the species of corn. It constipates the bowels but is diuretic.

Galen VII (XII, 16) : It is cooling in the first and desiccative in the first of the third and in the last of the second degrees. If applied in a bag as fomentations, it is very useful for colic.

COMMENTARY

The millet, the graminea *Panicum miliaceum L.* and its kinds are amongst the oldest plants cultivated by mankind (1) It has been found in Palaeolithic and Neolithic sites in Italy Switzerland and Germany. In Egypt, the species *Panicum* was not found before 1910, and seemed to have been unknown. Recently however, Netolitzky found millet in great quantities in the bowels of Prehistoric or Protohistoric bodies (2) ; he was able to determine the grains as those of *Panicum colorum* (" Shama-millet ") which was certainly cultivated in Ancient Egypt and still is, in India. Not one of the several names for corn and its kinds used in Ancient Egypt can be identified with *Panicum miliaceum*. The cultivation of this plant in Egypt seems to be of a rather recent date. Actually, the millet is cultivated in Egypt, and sometimes occurs spontaneously (Ramis, p. 36).

In Central Asia it is an important food of Mongolian tribes.

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(1) Because it easily grows in any kind of soil and quickly ripens, so that even Nomadic tribes are able to cultivate it.

(2) Netolitzky, *Nahrungs-und Heilmittel der Urägypter*. In *Die Umschan XV* (1911), p. 55. The Same., *Neue Funde prähistorischer Nahrungs-und Heilmittel*. In *Hommage international à l'Université de Grèce*, 1911, p. 235 foll. The Same, *Hirse und Cyperus aus dem prähistorischen Aegypten*. In *Beiblatt z. Botan. Centralblatt, XXIX* (1912) II 19. We owe these references to the kindness of Dr. L. Keimer.

pear-tree (*kummathrâ barrî* كمثرى برى) [1]. It has a round grey-coloured fruit which, when eaten, fortifies the bowels. This plant is common in the *Zâb* in the region of Qairawân [2].

THE AUTHOR : This tree is known in the land of the Berbers (Morocco) under this name ; they use its bark for tanning hides. IBN GULGUL said that it was *al-ghubairâ* الغبيرا (the service tree, *Pirus Sorbus Gaertn.*), but it is not.

COMMENTARY

IB., in his corresponding paragraph, left out this discussion of IBN GULGUL's sayings and replaced it by a more detailed description copied from IB.'s teacher, ABU'L 'ABBÂS AN-NABÂTÎ. His description of two kinds of red fruits agrees more with that of *Pirus domestica* (red fruits like a cherry with hard kernels), but IBN GULGUL's description of the tree agrees better with one of the white beam-trees (*Pirus Aria*) which do not reach more than from 3 to 6 metres in height and have brownish fruits. All these kinds of *Pirus* have astringent fruits, leaves and barks, and are good for tanning.

The name *gaudar* جودر sounds Persian, but Renaud [3] thinks it is Berber. ABU'L 'ABBÂS gives, for the kinds of *Pirus* described by him, the Berber names *tazghat* تزغت and *tamah* طمح.

SICKENBERGER (ARZN., p. 63) writes, that in his time (about 1890) in the Cairo drug-bazaars, a root-bark of highly astringent quality was sold, used as a dye-stuff and known as *gûdarî* جودرى. SICKENB. identified it with the bark of the anacardiacea *Rhus oxyacantha Cav.* So the opinions on the drug in question still show wide divergences. Therefore we think that it is useless to give any synonyms.

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[1] *Pirus communis var. Achras L.*

[2] Kairuân in Tunisia.

[3] H.-P.-J. RENAUD, *Trois études d'histoire de la médicine arabe en Occident* Hespéris XI (1931) p. 145.

grow in hot climates and sandy soils like Egypt and other countries of its neighbourhood; I saw at Beirût (Syria) only a few trees. The best kind is that of medium maturity. It does not ripen until there is cut off from its end a round piece as is done with figs, in order to accelerate their maturity.........." As mentioned above, this excision is still in use in Egypt to-day[1].

The *Cyprian fig* described by Diosc. is perhaps only a variety (*Ficus Sycomorus var. ulmifolia* ?) (Berendes, p. 146).

Synonyms: Gr.: συκάμινος Αἰγύπτια (*sykáminos Aigyptia*, Theophr.), συκόμορος, -ον (*sykómoros*, -*on*, Diosc.), συκόμορον Κύπριον (*sykómoron kyprion*, Diosc.); Lat.: ficus Aegyptia; Egypt.: [hieroglyphs] (*nht*, the tree), [hieroglyphs] (*enkw*, the fruit); Copt.: ⲛⲟⲩϩⲉ, (*nouhé*, the tree), ⲉⲗⲕⲟⲩ, ⲉⲗⲕⲱ (*elkô*), the fruit; Ar.: *gummaiz* جميز (Mod. Egyptian pronunciation *gimmêz*), *tîn ahmaq* تين احمق, *tîn barrî* تين برى, ("wild fig"), *bura'* برع, *khanas* خنس, *suqum* سقم (the latter three names in South Arabia, Schweinf. p. 165), *hamât* حماط (uncertain, a wild fig); Pers.: *jummaiz* جميز, *anjîr-i-'Arab* انجير عرب ("the Arabs' fig"), *anjîr fir'awnî* انجير فرعونى ("Pharaonic fig," Naficy II, 900), *chinâr-i-firangî* چنار فرنگى ("Frankish plane tree," Naficy II, 900); Turk.: *Frangistân chinâri* فرنكستان چنارى (same meaning, Samy), *'Arâbistân enjiri* عرابستان انجيرى ("fig of Arabia," Hanjéri II, 611), *yaban enjiri* يابان انجيرى ("wild fig," Hanjéri ibidem), *jimmêz aghaji* جميز اغاجى (Samy); Eng.: sycamore-fig, fig-mulberry; Fr.: sycomore, figue d'Adam; Germ.: echte Sykomore, Maulbeerfeige.

200. Gawdhar جوذر, *White Beam-Tree* ? (Pirus Aria Ehrb ?).

(Lecl. No. 539).

Ibn Gulgul: It is a tree which is not high, with red branches and a thick trunk. Its leaves are like those of the wild

(1) Dâwûd's contemporary, the Venetian Prosper Alpinus gave the first good description of the sycamore-fig in Latin (*De plantis Aegypti*, Patavii 1590 pp. 20–22).

from becoming sweet. In our days, the cultivation of sycamore-fig-trees in Egypt is the privilege of certain families who know how to scarify the fruits and how to protect them by nets from bats and other animals (1). LUDWIG KEIMER, who is the chief authority on the sycamore-fig in Ancient Egypt, published, in 1928, a learned article on ϵλκω "the sycamore-fruit" in Coptic (*Acta Orientalia VI*, pp. 288–304) in which he gave many details on the ancient and modern cultivation of this tree and the fig-tree. The wood has sometimes been falsely identified with that of the mulberry-tree. The wood of the sycamore-fig-tree is largely used for coffins and woodwork in houses. It becomes more solid by soaking in water.

The fruit is less palatable than the fig, but an important food-stuff for many native peoples. Wild sycamore-trees with edible fruits are frequent in many parts of Tropical Africa. In French West-Africa, grafting of figs on sycamore-fig-trees has been successful.

Amongst the Arabic physicians, IS-HÂQ B. SULAIMÂN, Jewish practitioner of the IXth cent. A.D. (2), a native of Egypt, says that the Egyptians are very fond of sycamore-figs eaten with water, and that they use a decoction of the fruits against cough and catarrh of the chest (according to IB.—LECL. I, p. 364).

Most of the other Arabic authors, *e.g.* IDRÎSÎ, simply repeat DIOSC.'s sayings.

DÂWÛD who knew so well the customs and practices of the Egyptians in the XVIth cent., wrote (I, 212): "It (the sycamore-fig) reaches maturity in *Baramûda* (3) and continues growing until *Bâba* (4), because the physicians and the peasants say that it (the tree) gives fruit four times a year, and the common people say seven times. The best kinds are those that

(1) LUDWIG KEIMER, *An Ancient Knife in Modern Egypt*. In *Ancient Egypt* III (1928)pp. 65 foll., and *Sur quelques fruits reproduits en faience*, etc. In *Bulletin de l'Institut français d'Arch. Orient.* XXVIII (1929) pp. 49–97. THEOPHR. (I) calls the sycamore-fig-tree "Egyptian"; *see* the synonyms.

(2) *See Introduction* No. 20, p. 14.

(3 & 4) For these Coptic names of months *see* above note 2, p. 250 foll.

Diosc. I (127): συκόμορον (*sykómoron*) or the dull fig [1], so called because it has an insipid taste. It is a tree like the fig-tree which oozes a very great quantity of milk (-juice) and possesses leaves like those of the mulberry-tree. It yields fruit three or four times a year. These fruits do not issue at the embranchments of the twigs like figs, but from the trunks like the wild figs. They are sweeter than unripe figs and have seeds which are not as big as fig-seeds. They do not ripen unless they are scarified with an iron hook (*makhlab* مخلب). It grows abundantly in the land of Caria (Asia Minor), in Rhodes and in regions where wheat grows freely [2]. Its fruit is useful in years of drought because it exists in all the seasons. It is purgative, bad for the stomach, and the milk-juice which comes out of its fruit in Spring [3] closes wounds and resolves swellings.

There is in the Island of Cyprus a fruit as large as a plum, though sweeter, resembling in its other features the sycamore-fig.

COMMENTARY

The sycamore fig is the moracea *Ficus Sycomorus L.* The tree is believed to have been a native of Western Abyssinia but it was, since the earliest times, observed in Egypt where it was often painted in tombs and temples of the Old Empire (IVth dynasty). It was a tree of life and sacred to a goddess (Hathor) who was often represented as giving refreshment and life to human beings [4]. The custom of incising or scarifying the fruits with a hook- or loop-shaped knife is equally very old; it served and still serves, the purpose of letting escape the gall-wasps (*Blastophagae*) which develop in the fruit and prevent it

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[1] In the text of T. and G., *ahmar* أحمر ("red"); IB. gives the better reading, *ahmaq* أحمق "dull," erroneous translation of Greek σῦκον μῶρον *sýkon môron*.

[2] A negation is in the Greek text, but missing from the Arabic one.

[3] This passage has been too much abridged by BH.; IB. has the full translation of the Greek text which reads that the bark of the tree is scarified in Spring before the ripening of the fruit, in order to obtain the juice.

[4] L. Keimer, *Sur un bas-relief... représentant la déesse dans le sycomore et la deesse dans le dattier.* In *Annales du Service des Antiquités de l'Egypte*, XXIX (1929) pp. 81–88.

As to the Oriental names of nuts, the dictionaries do not give any satisfactory explanation. We are inclined to follow LOEW (1) who derives *bunduq* (Persian, also *funduq* فندق) from *Pontikon*. This word was applied in later times to globules, pills and bullets. The other name *gillawz*, said to be Arabic (ABÛ HANÎFA AD-DÎNAWARÎ), seems to be equally derived from Persian *jilûz* جلوز or *gilûz* كلوز, which is perhaps a corruption of *jilghûza* جلغوزه or *chilghûza* چلغوزه. This latter word designates the cone of a fir tree, but is, according to DÂWÛD (I, 211), not used for this drug in Arabic. In Persian, *jillawz* designates at the same time *bâdam-i-kûhî* بادم كوهى, *i.e.* "the mountain almond" or the wild almond, with the Persian synonyms *bukhrak* بخرك and the Arabic *lawz gabalî* لوز جبلى. We think that this might mean one of the pointed, nearly almond-shaped kinds of hazel-nut, *e.g. Corylus maxima*.

IBN SÎNÂ (I, 283) identifies *gillawz* with "the grain of the large pine-cones" (*habb as-sanawbar al-kubâr* حب الصنوبر الكبار); but this is a manifest error.

SYNONYMS : Gr.: κάρυον Ποντικόν (*káryon Pontikón*), λεπτοκάρυον (*leptokáryon*, DIOSC.) ; Lat.: corylus (VIRGIL , PLINY), Pontica nux, Abellina nux, nux abellana (2) ; Ar. : *gillawz* جلوز, *bunduq* بندق, *lawz gabalî* لوز جبلى ; Pers. : *funduq* فندق, *gilûz* كلوز, *gilghûza* كالغوزه, *chilghûza* چلغوزه, *bâdam-i-kûhî* بادم كوهى, *bukhrak* بخرك ; Turk. : *findiq* فندق ، فندق ; Eng. : hazel-nut, filbert; Fr. : noisette, aveline, (the shrub : noisetier, coudrier) ; Germ. : Haselnuss.

199. Gummaiz جميز , *Sycamore fig* (Ficus Sycomorus L.). (LECL. No. 509).

This is the name for the "male fig" (*at-tîn adh-dhakar* التين الذكر), and another kind of fig is so called.

(1) *Aramaeische Pflanzennamen* (Leipzig, 1881) pp. 48–49, No. 23.

(2) According to PLINY (XV, 88) the hazel got this name from the Campanian town f Abella, where possibly it was first grown in Italy.

shawbakî شوبكى (Egypt, for all kinds of nuts, DÂWÛD); for the wild walnut-tree (*gawz al-gabal* جوز الجبل): *dabr* ضبر (the wild walnut-tree *Asma'î*, p. 44). Vernacular Ar.: *'ain gamal* عين جمل ("camel's eye"); *'ain baqar* عين بقر ("cow's eye," Upper Egypt), *taqq* طق; Pers.: *girdû* گردو, *girdgân* گردگان (ABÛ MANSÛR), *jawz* جوز, *gawz* گوز, *chahâr maghz* or *châr maghz* چهار او چار مغز ("four brains," VULLERS, STEINGASS); Turk.: *jevz* جوز, *qoz* قوز (HANDJÉRI, SAMY); Eng.: walnut; Fr.: noix, noix de jauge; Germ.: Wallnuss, Welschnuss.

198. Gillawz جلوز, *Hazel-nut* (Corylus Avellana L.).

(LECL. Nos. 357 & 502).

It is the hazel-nut (*bunduq* بندق).

DIOSC. I (125): κάρυα Ποντικά (*kárya Pontiká*) (1). They are harmful to the stomach. If pounded and drunk with honey and water, they cure cough.

GALEN VII (XII, 14): It is a kind of small nut in which there is more of the earthy and cold substance than in walnuts.

ANOTHER AUTHOR: It nourishes the brain and causes flatulence in the lower abdomen.

COMMENTARY

The hazel-nut is the fruit of the betulacea *Corylus*, a well-known shrub of which *C. Avellana L.* is spread over Europe, Asia Minor, Syria and Algeria. Other kinds, *Corylus colurna maxima* and *Pontica* are indigenous to the Balkans and Western Asia. The nutritive value of nuts is known since Antiquity. Of their medical uses there are many records by Arabic and Persian authors. Besides stopping diarrhoea, they were said—like walnuts—to be an antidote to poisonous drugs (ABÛ MANSÛR, p. 157).

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(1) The Persian-Arabic name *bunduq* is derived from *káryon Pontikón* (Pontian nut): as we saw before, the walnut was called "Persian" or "royal" nut.

Taken, whether before or after, with dried figs and rue they are an antidote to deadly (poisonous) remedies. The fresh walnut is less noxious to the stomach because it is more palatable and sweet; therefore it is mixed with garlic in order to diminish its acridity.

COMMENTARY

The walnut-tree (*Juglans regia L.*) is a native of Europe and Western Asia. Its fruit is known since Antiquity and is mentioned by THEOPHRASTUS and other Greek writers. Its medical use is due to the tannin contained in the leaves, shell and peel of the nuts. It is thus mentioned as an officinal drug in the French Pharmacopoea of 1866.

IB. cites RÂZÎ, IBN SÎNÂ and many other Oriental medica writers on the healing faculty of the walnut. IDRÎSÎ who knew the fresh nuts from Sicily gives a long description of their properties. DÂWÛD (I, 215) describes the Syrian *Juglans-tree* and mentions that it lives to the age of 100 years, and cites the use of the nuts against intestinal worms.

IBN AL-ʿAWWÂM, in his *Book on Agriculture* (ed. CLÉMENT-MULLET I, 271–7), discusses in detail the cultivation of the walnut-tree in Medieval Moorish Spain.

SYNONYMS: GR.: κάρυον (*káryon*), κάρυον Περσικόν (*káryon Persikón*, "Persian nut," THEOPHR.), κ. βασιλικόν (*k. basilikón, i.e.* "royal nut," DIOSC., GALEN); Lat.: nux (tree and fruit, *Virgil*) (1), juglans (PLINY); AR.: *gawz* جوز (2), *gawz al-akl* جوز الاكل ("edible nut," (Gh.), *gawz malakî* جوز ملكى ("royal nut"), *gawz shâmî* جوز شامى ("Syrian nut," Egypt, DÂWÛD), *gawz rûmî* جوز رومى ("Greek nut," VULLERS II, 969) (3), *gawz al-ʿidd* جوز العد (RÂZÎ, according to BÎRÛNÎ), *farîs* فريس (same author), *khasf* خسف (ABÛ ḤANÎFA), *figrim* فُرم (ISSA 102, 8), *khashf* خشف (DÂWÛD);

(1) *See* JOHN SARGEAUNT, *The Trees, Shrubs and Plants of Virgil*, Oxford, 1920. p. 85.
(2) Derived from Persian *kûz* گوز.
(3) *Gawz rûmî* of IBN SÎNÂ (I, 284) is the fruit of the black poplar.

but oblong. The Egyptians call it *falâfil as-Sûdân* فلافل السودان ("Sudan pepper")."

'ABD AR-RAZZÂQ (p. 91), as mentioned in the foregoing chapter, confuses the names of Paradise-grains with those of the kola-nut. What he describes under the name of *gawz az-zang* and *al-gawz as-sahrâwiya* جوز الزنج والصحراوية are in reality the *grana Paradisi*. He gives the Algerian name of *gawzat ar-raqîqa* جوزة الرقيقة ; LECLERC stated that the drug sold in our days under this name is the fruit of *Xylopia aethiopica R. Rich.*, *i.e.* Guinea-pepper.

Further investigation is required in order to establish the identity of the drugs to which the name *grana Paradisi* and their Arabic synonyms is applied.

SYNONYMS : Ar. : *gawz ash-shark* جوز الشرك, *gawz al-Habasha* جوز الحبشة (Gh.), *gawz as-Sûdân* جوز السودان (IDRÎSÎ), *filfil as-Sûdân* فلفل السودان ('ABD AR-RAZZÂQ), *falâfil as-Sûdân* فلافل السودان (Egypt, DÂWÛD), *tîn al-fîl* تين الفيل (Egypt, DÂWÛD), *gawzat ar-raqîqa* جوزة الرقيقة (Algeria, 'ABD AR-RAZZÂQ); Pers. and Turk. : no name; Eng. : grains of Paradise, black amomum, great cardamom; Fr. : amome, graine de paradis, maniguette, méléguette ; Germ. : Paradieskörner, Guineakörner.

197. Gawz جوز, *Walnut* (Juglans regia L.).

(LECL. No. 525).

GALEN VII (XII, 13) : The astringency is in its external shell when it is fresh and tender. Its juice is useful for diseases of the mouth and throat. The nut itself, on account of its refined oily qualities, helps to obtain the desired change of condition ([1]), especially the old (dried nuts).

DIOSC. I (125) : κάρυα βασιλικά (*kárya basiliká*). They are difficult of digestion, bad for the stomach causing yellow biles.

([1]) In IB. instead of *murâd* مراد, *marâra* مرارة, ("bitterness, biliousness") which gives no proper sense ; copyist's mistake.

sharper than it and of an aromatic smell. It is imported from the Sudan and is used in the confection of (*fol.* 26 *r*) electuaries[1]. That which is imported from Berbery is inferior.

COMMENTARY

This nut was first described by Gh. and IDRÎSÎ (*see* below). It is the fruit of different zingiberaceae, in the first place of *Amomum* (*Aframomum*) *Granum Paradisi L.*, which is indigenous to Guinea, and also of *A. Clush*, *macrospermum*, *strobilaceum* and *A. Melegueta Rosc.*, which latter furnishes the Malaguetta-pepper. All these kinds of *Amomum* furnish the "grains of Paradise" (*grana Paradisi*) which are of different sizes and all contain resin, aromatic oil and a substance which burns the tongue. The larger kind described by Gh. is sold in our days in the Cairo bazaars[2] under the name of *filfil as-Sûdân* فلفل السودان ("Sudan pepper") and *tîn al-fîl* تين الفيل ("elephant figs"). The *grana paradisi* are still in Europe official drugs in Veterinary Medicine.

IDRÎSÎ (p. 82), quoted by IB., gives a good description thus: "I saw it in Morocco whither it is imported by merchants from the Sudan. It is the fruit of a tree that grows in Ethiopia in the first climate [3]. It is a large nut, as big as a large fig, round, having an external bark which, when dried, shrinks. Under this bark are kernels which are soft, the hardness being in the bark (p. 83). In their interior are grains in the form of grape-pippins in great number, reddish or greyish.........." IDRÎSÎ then describes the preparation of an oil from the grains.

DÂWÛD (I, 218) knew this nut equally well and gave a detailed description, of which we abstract only the following passage: "...... This bark falls off (from the fruit) and remains grey, spongy, soft and filled with seeds like pepper-corns

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(1) *Gawârishât* جوارشات, Arabicised from Persian *guwârish* گوارش, *i.e.* an electuary assisting digestion.

(2) DUCROS omitted them.

(3) I.e. the hottest.

It was not till four centuries after Gh.'s time, but 50 years before AL-GHASSÂNÎ in the XVth cent., that the nut was made known to Europe under its native name of *goro*, by the Moorish traveller Leo Africanus. At the end of the same century *Edoardo Lopez* was the first to describe (from the Congo) the habit of chewing this nut which he called *kola*. 'ABD AR-RAZZÂQ (p. 91) the Algerian, mentions the name of *gawz az-zang* which he identifies with *gawz ash-shark* جوز الشرك (*see* below No. 196). Since he gives us no description we must follow LECLERC who takes it to be *Unona (Xylopia) aethiopica Dun.*

The kola-nut owes its stimulating and tonic qualities to its contents of 2 per cent caffeine, theobromine and 0·75 per cent kolatin, besides starch and a red dye-stuff (kola-red). These qualities disappear as soon as the nuts loose their freshness. This is the reason why the use of the nut is restrained to regions near its native land.

SYNONYMS : Ar. : *gawz az-zang* جوز الزنج (Gh.), *kharrûb as-Sûdân* خروب السودان (AL-GHASSÂNÎ), *gawz sahrâwiya* جوز صحراوية ('ABD AR-RAZZÂQ 91), *kûrû* كورو (AL-GHASSÂNÎ) ; Eng. : kola-nut, kola ; cola seeds, gooroo nut, bissy nut ; Fr. : kola, noix de kola, café du Soudan, noix de goro (gourou) ; Germ. : Kola-nuss, Gurunuss.

196. Gawz ash-Shark جوز الشرك [1], *Black Amomum* (Amomum Granum Paradisi L.), etc.

(LECL. No. 535).

It is " the nut of the Abyssinians," in the size of the edible nut (walnut) except that it is a little more oblong with sharp ends, as if it were a specimen of the roots of small asphodel (*usûl al-khunthâ* اصول الخنثى) ; its colour is red, slightly inclined to black ; its flavour is like that of ginger (*zangabîl* زنجبيل), even

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[1] The meaning of this name is " compound nut."

COMMENTARY

This is the first description of the kola-nut in history. It was copied by IB. and is here slightly abridged by HB. Gh. must have seen the nut itself. Leclerc, when translating IB.'s chapter 533, identified the "negro-nut" immediately with the kola-nut, a woody capsular fruit containing from five to fifteen crimson seeds, of the African sterculiacea *Cola acuminata Schott. & Endl.* and *Cola vera Schum.* (synonym: *Sterculia ac. Beauv.*). This is a tree resembling in habit the Spanish chestnut which grows wild in Togo, Dahomey, Nigeria and Cameroon down to Angola. Another kind with two seeds only, is *Cola nitida* or *vera*, indigenous from Liberia to Sierra Leone (1). Both of them are now cultivated by the negroes, as the demand for their use is still increasing. The actual annual production is about 20,000 tons. Its commerce is mainly in the hands of wandering Hausa merchants, who carry it to the Sudanese people round Lake Tchad, whence a small quantity is sent to Timbuctoo and the Berbers of North Africa. In this way Gh. probably became acquainted with the drug.

Renaud, in a detailed study (2), emits the opinion that Gh. did not describe the kola-nut, as its parts are larger than the grains of the lesser cardamom. He bestows the honour of the first good description of the nut on *al-Ghassânî* الغسانى, physician of the Moroccan Sultan *Aḥmad al-Manṣûr*. That practitioner wrote, in 1586 A.D., a pharmacological treatise (3) in which he described the kola-nut under the name of "carob of the Sudan" (*kharrûb as-Sûdân* خروب السودان). He called it *gûrû* كورو. In two MSS. he says that its Egyptian name was *tanbûl* تنبول. Al-Ghassânî is, indeed, the first to mention the tonic and stimulating qualities of kola.

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(1) A. Chevallier and E. Perrot, *Les végétaux utiles de l'Afrique tropicale française*; facs. VI, Paris, 1911.

(2) H. -P. -J. Renaud, *La première mention de la noix de kola dans la matière médicale des Arabes.* Hespéris VIII (Paris, 1828) pp. 43–57. Good bibliography),

(3) Renaud et G.-S. Colin, *Tuḥfat al-Albâb, Glossaire de la matière médicale marocaine.* Paris, 1931. *See* our *Introduction* No. 58, p. 30,

MAIMONIDES and IDRÎSÎ (p. 83) say that the wild pomegranate yields a flower, but no fruit (1). IDRÎSÎ applies the name *gullanâr* only to the calyx of the flower.

SCHLIMMER (p. 410) wrote in 1874 that the Persian practitioners preferred as best the wild pomegranate flowers (*gulnâr-i-fârisî* كلنار فارسى) coming from the Province of Gilân in North Persia.

SYNONYMS: (2) Gr.: βαλαύστιον (*balaûstion*); Lat.: balaustium Scrib. Largus (PLINY); Ar.: *gulnâr, gullanâr* جلنار, *'anam* عنم, *mazz* مظ (ISSA), *raghath* رغث; Pers.: same names and *anâr-mushk* انارمشك, *nâr-mishk* نارمشك (VULLERS), *nâr-i-rubbâb* انار رباب (VULLERS II, 1273), *gunbadh* كنبد (3) (ISSA), *anâr-i-dashtî* نار دشتى ("wild pomegranate," HANDJÉRI I, 217); Turk.: *julnâriyé* جلناريه (AVNI 71), *yaban nari* يبان نارى (HANDJÉRI, AVNI), *yaban nari chicheyi* يبان نارى جيجكى (SAMY); Eng.: balaustine; Fr.: balauste; Germ.: wilde Granatapfelblûte.

195. Gawz az-zang جوز الزنج (4), *Kola-Nut*, (Cola acuminata Schott and Endl., etc.).

(LECL. No. 533).

It is a fruit in the size of an apple, a little oblong, angular, compact (5), containing in its interior grains like the lesser cardamom (*qâqulla saghîr* قاقله صغير, *Elettaria Cardamomum White* and *Maton*), globular, chestnut-coloured, of a sharp taste almost similar to that of galingal (*khûlingân* خولنجان, *Alpinia Galanga Willd*), and of an aromatic smell. It is imported from the deserts of the Berbers. One *dâniq* of it, drunk with hot water, is useful against flatulent colic.

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(1) AL-ASMA'Î (*K. an-Nabât wa'sh-shagar* كتاب النبات والشجر, ed., Haffner, Beirut, 1898, p. 44) confirms this.

(2) *See* the very detailed paragraph of LOEW (III, 80–113).

(3) Means simply a flower-bud.

(4) I.e. "the nut of Negroes."

(5) In our text منسج; in IB. (I, 177) منشنج ("shrunken"); we prefer our reading.

194. Gullanâr جلنار, *Balaustine, Wild Pomegranate-Flower* (Punica Granatum L.).

(Lecl. No. 494).

It is the male pomegranate-tree (*ar-rummân adh-dhakar* الرمان الذكر) which is called in Arabic *al-mazz* المظ [1].

Diosc. I (111): βαλαύστιον (*balaústion*). It is of many kinds, white, rose-coloured and red. In its appearance it is like the flower of the (cultivated) pomegranate. Its juice is extracted in the same manner as that of ὑποκιστίς (*hypokistís*, hypocist). It is astringent and useful in the same (diseases) treated by the latter.

Galen VI (XI, 827): The *gullanâr* is the flower of the wild pomegranate; its flavour is strongly astringent, and it's faculty is desiccative and cooling.

COMMENTARY

We treat here the wild pomegranate only, as there comes later on a long chapter on the cultivated kind (*see* below, *Rummân* رمان).

The indigenous home of the wild pomegranate (*Punica Granatum L.*) was probably in Persia and Central Asia. But it came very early to India, Syria, Arabia and Egypt where it was a well-known plant in Antiquity. Dymock (II, 45) is inclined to derive the origin of the wild pomegranate from *Punica protopunica* (discovered by Balfour in Socotra). This, however, is a pure supposition.

The name *gullanâr* جلنار is of Persian origin, *gul-i-anâr* گل انار ("flower of the pomegranate"). The medical uses of the flower were due to its astringent qualities. The bark of the root is much more efficacious and is still used in our days as an official drug in Europe (*Cortex Radicis Granati*). In the Cairo bazaars the flower is still sold sometimes under the Persian name of *nârmishk* نارمشك [2].

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[1] This name means "acrid," "astringent."

[2] *See* Ducros, p. 36 foll.

There is no other Oriental writer who gives any notable contribution to the knowledge of nutmegs and mace except DÂWÛD (I, 217) who details, about 1560 A.D., the first Arabic description of the tree: " (Nutmeg) is the fruit of a tree of about the size of a pomegranate tree, but lank and with narrow leaves. The leaves and wood are as good as the mace, as mentioned (before). This nut has inside it, similar to a Syrian nut, (walnut), two peels....... The size of this (entire fruit) is like an egg, and when it is peeled it diminishes to that of a gall nut, streaks and ramifications show on it. It is (native) in the mountains of India and in the islands of Atyeh (1) and Malacca.........."

DÂWÛD had in all probability his information from Egyptian prisoners captived by the Portugese who had discovered in 1504, the original land of the nutmeg-tree, *viz.* the Banda Islands (which they lost, in 1605, through the Dutch conquest of the Sunda Archipelago).

SYNONYMS: Gr.: ἀρωματικὸν κάρυον (*aromatikòn kâryon*), (SIMEON SETH, XIth cent. A.D.) (2); Lat.: nux moschata (Medieval name); Ar.: *gawz bawâ* جوز بوا, *gawz at-tîb* جوز الطيب *gawz ash-shaikh* جوز الشيخ (Morocco, DUCROS, p. 38). The mace: *basbâsa* بسباسة, *bisbâs* بسباس (Mod. Egypt and Persia); Pers.: same names and *tâlîsfar* طاليسفر (ABÛ MANSÛR), *gauz hindî* كوز هندى (SCHLIMMER, p. 402). The mace: *jârkûn* and *chârgûn* جاركون وچاركون (VULLERS), *bazbâz* بزباز (STEINGASS), *bazbâza* بزبازه (VULLERS), *gul-i jawz-i-bewâ* گل جوز بوا (SCHLIMMER, p. 352); Turk.: same names as in Arabic; Eng.: nutmeg; the aril: mace; Fr.: noix de muscade; the tree: muscadier; the aril: macis; Germ.: Muskatnuss; the aril: Muskatblüte, Mazis.

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(1) The text reads *Ashiya* اشيه which is certainly a copyist's error.

(2) It is the translation of the Persian and Arabic name "fragrant nut."

The native land of the nutmeg tree is probably the region of the Molucca and a few neighbouring islands. The nutmeg-tree is now cultivated in many tropical lands, but the bulk of the ware comes from Celebes and the Malayan Peninsula. The Arabs became acquainted with nutmegs through the Persians, as its name *gawz buwâ* is a corruption of the Persian *gawz-i-bûyâ* كوز بويا ("fragrant nut"); *gawz at-tîb* has the same meaning, but is half Arabic. The name for the mace, *basbâsa,* seems to be a pure Arabic word derived from the root *bassa* بسّ, "to break" or "to crumble." Other kinds of *Myristica* are frequently used as substitutes for, or adulteration of, the real nutmeg (1). Its medical uses were mainly for diseases of the digestive apparatus and for eye-troubles. Moreover, it was and still is, a constant ingredient in aphrodisiac remedies. It is a bazaar drug in all the Oriental countries. In Cairo, baskets full of dark red mace are one of the characteristic signs of a native druggist store.

Nutmeg, mace and their oils are still official drugs in many pharmacopoeas, under the names of *Nuclei Myristicae Nuces moschatac, Arillus Myristicae, Oleum Myrist., Oleum Macidis,* and they form constituents of many tinctures (a list is found in LUERSSEN II, p. 579).

ABÛ MANSÛR (*Achundow,* p. 231) mentions the nutmeg under the name of *tâlîsfar* طاليسفر which is, according to VULLERS (II, 529), a word of Greek origin designating the bark of an Indian olive-tree. According to LAUFER *Sino-Iranica* p. 584), however, it is the Persian transformation of a Sanscrit name *tâlîsapattra* of "the Indian plum" (*Flacourtia cataphracta Willd*).

BÎRÛNÎ gives in his short paragraph on nutmeg its Sanscrit name *jâtî* جاتى and the Syriac name *gôzê de-besmâ* كوزى دبسما, and says, quoting *al-Khushakî,* that it is also imported from *Sofâla* السفالة (in East Africa). He identifies it erroneously with βάλανος μυρεψική (*bâlanos myrepsikê*) of the Greeks which, in reality, is the ben-nut (*vidé suprâ* chapter 118, *Bân* بان).

(1) The mace is adulterated by the aril of *Myristica malabarica* ("Bombay-mace") and *Myristica fatua* or that of *M. argentea* ("Macassar-mace").

LETTER ĜIM ج

193. Gawz Buwâ جوز بوا, *Nutmeg* (Myristica fragrans Houtt). (Lecl. No. 526).

It is the aromatic nut (*gawz at-tîb* جوز الطيب).

Ibn Sînâ ([1]) : It is a nut of the size of a gall nut, is easily broken, with a thin shell and an aromatic smell.

Is-hâq b. 'Imrân : It is imported from India. The choicest is the heavy, sedate and red.

Another Author : Its flavour is like that of cloves (*qaranful* قرنفل). It is hot and dry in the second degree, fortifies the sight and cures ozœna (*bakhr* بخر). It helps the digestion of food and strengthens the liver and spleen. As to the mace (*basbâsa* بسباسة), it comes from the thin (external) peel of the nut which covers the (inner) thick shell ([2]). The best kind is the red and the worst is the black. They are compact, fine, dry, their shells reddish or yellowish, burning the tongue like cubeb pepper (*kabâba* كبابة). It is hot and dry in the second degree, astringent and carminative.

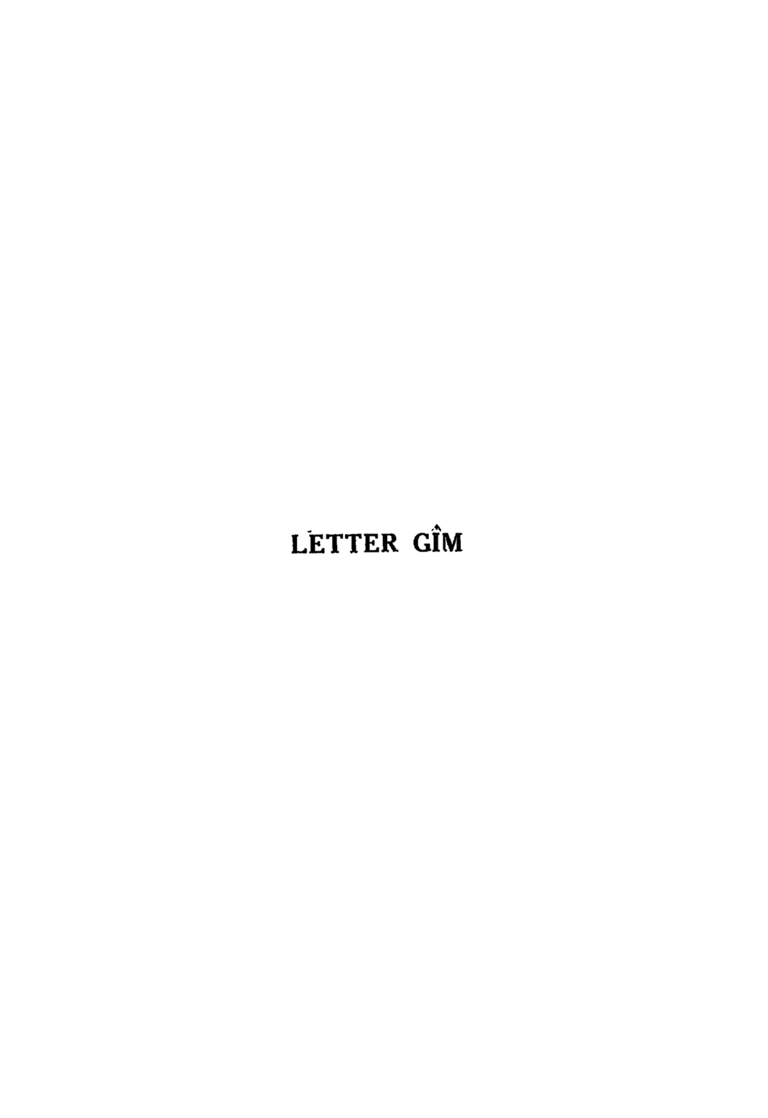
COMMENTARY

The nutmeg, the seed of *Myristica fragrans Houtt.*, and its aril (covering of the seed) called mace ([3]) were very well-known kinds of spices since Antiquity. Schweinfurth discovered nutmegs in ancient Egyptian tombs ; they must have been imported to Egypt by South Arabian merchants who were, since the earliest times, the holders of the Indian commerce in spices. It is very strange that nutmegs were unknown to the Greeks and seem to have been known and mentioned for the first time by Byzantine writers of the VIth cent. A.D. (according to Tschirch II, 593, 633, in the XIth cent. only !).

([1]) *Qânûn* ed. Bûlâq I, p. 281.

([2]) I.e. the seed-coat.

([3]) In Europe, during the Middle Ages, the erroneous opinion that mace was the flower of the nutmeg tree, was prevalent. It is in reality " intermediate in nature between an arillus and arillode " (H.G. Greenish, *Materia Medica*, fourth ed. (London, 1924) p. 186.



LETTER GÎM

Other authors do not give any explanation and the works on plant-names of Yemen(1) are silent. Thus the question remains unsettled.

192. Bint Wardân بنت وردان , *Cockroach* (Periplaneta Orientalis L.).

(Lecl. Nos. 361 and 1396).

It is *as-sarâsir* الصراصر of the *Hâwî* (2).

Diosc. II (36): Its inside if triturated with oil or boiled with oil and instilled in the ear soothes its pain.

Another Author: Cockroaches (*banât wardân* بنات وردان) (3) are strongly resolvent, diuretic and abortive. They are useful against intermittent fever (*an-nâfid* النافض), poisons of insects, haemorrhoids and pains in the uterus and kidneys.

COMMENTARY

The cockroach is the ubiquitous *Periplaneta orientalis L.*, (Blattidae) (4) which probably emigrated from the Orient into Europe. Diosc. witnessed that, already in Antiquity, it was an unpopular intruder in bake-houses and other warm places. Its use in medicine is very old and common to many peoples. It had, and still has, in popular belief a great reputation as a diuretic and aphrodisiac remedy. A century ago it was still an official drug in many lands, under the name of *Blatta Orientalis*.

Synonyms: Gr.: σίλφη (*sílphê*); Lat.: blatta (Pliny); Ar.: *bint, banât wardân* بنت، بنات وردان, *sarsar* صرصر, *sirsâr* صرصار (Mod. Egypt), *karal* كرل, or *karkal* كركل (Algeria, 'Abd ar-Razzâq, p. 81); Pers.: *sûsk* سوسك; *sapîrak* سپيرك (Vullers II, 218); Turk.: *hamâm böjeyi* حمام بوجكى ("insect of the bath"); Eng.: cockroach; Fr.: blatte orientale, blatte des cuisines, cafard, bête noire; Germ.: Küchenschabe, Kakerlak.

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(1) E. G. Schweinfurth's "*Plant-names of Yemen*" and E. Blatters *Flora of Aden* (Calcutta, 1914–6).

(2) I.e. *Kitâb al-Hâwî* كتاب الحاوى, the enormous work *Continens Medicinae* of ar-Râzî; *see Introduction* No. 26, p. 17.

(3) It is the plural of *bint wardân*.

(4) It is not a beetle but an orthopteron (group Cursoria).

191. Bawl al-Ibl بول الابل "Camels' Urine" (Undetermined Drug).

(LECL. Nos. 389 and 1419).

These are pastilles imported from the Yemen and sold in Mekka during the (pilgrimage) season. They are used for the treatment of fresh and bleeding wounds. They stick to the wounds and are not removed until the latter are healed. It is a well-known and reputed remedy in Yemen. The Yemenites believe that their camels feed during a certain season of the year on a grass which grows during that season. The urine of the camels is then collected, dried and the residue made into small discs. This procedure is done only in the Yemen.

COMMENTARY

IB. (I, 167) was the first to comment on this enigmatic drug. He says that the foregoing paragraph is taken from ABU'L-QÂSIM AZ-ZAHRÂWI [1] and others. He does not believe that the discs are really camels' urine, but a black substance found in certain caverns in the mountains round Mecca, and also called *sinn al-wabr* صن الوبر ("urine of hyrax"). He was told that it was the dried and hardened excrements of bats. It must have been a viscous substance, good for clogging wounds instead of mastic, and in all probability of vegetable origin.

DÂWÛD (I, 174 and 439) gives the same names, but another explanation: "It is the name of special pastilles, of which it is said that they are the produce of a plant growing only in the mountains of Higâz الحجاز and made into the form of discs by means of camels' urine."

This is a more plausible explanation, as the viscosity of the substance is in favour of a plant and that the urine of camels is very frequently used in desert lands instead of water, on account of the scarcity of the latter.

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(1) *See Introduction* No. 34, p. 20.

ANOTHER AUTHOR : The urine of camels is extremely useful against ozæna (*khasham* خشم) because it energetically opens the obstructions of the ethmoid (lamina cribrosa, *misfâ* مصفى). When used mixed with human urine as a friction on the spleen, it is useful for dropsy (*istisqâ'* استسقاء). Children's urine, if boiled in a copper vessel, is useful for leucomata and trachoma in the eyes. Dog's urine, when boiled, blackens the hair beautifully as a pigment. If a drunken person drinks camel's urine, he recovers his senses immediately.

IBN SÎNÂ : A man suffering from his spleen was ordered in a dream to drink his own urine three times a day; he did it and was restored to health. He tried it on others and found it marvellous.

COMMENTARY

The pretended medical qualities of urine were believed in from the earliest times. The belief was, as shown by the foregoing chapter, shared by Ancient Egyptian, Greek and Arab physicians and passed, through the medium of Medieval European Medicine, on to the popular Medicine of all nations. It still lingers on in our days. It must be said, however, in honour of the Arab medical men, that such disgusting remedies did not play a great part in their pharmacopœia.

In almost every medical papyrus that has come to us from the Ancient Egyptian, Greek and Coptic periods, the use of urine as a remedy was mentioned in several places and for the treatment of several diseases. Nowadays urine is drunk, among the low classes of the Egyptian population, against measles and all kinds of cough.

SYNONYMS: Gr.: οὖρον (*ûron*); οὔρημα (*ûrema*); Lat.: urina; Anc. Egypt.: [hieroglyphs]; *-my-j-*; Copt.: ⲙⲙⲏ; Ar.: *bawl* بول; Pers.: *pêsh-âb* پيش آب, *gîmîz* كميز, *shâsh* شاش, *shâsha* شاشه, *zâhr-âb* زهر آب, *chamîz* چميز; Turk.: *sû* صو (water), *sidik* سدك, سيديك, *idrâr* ادرار (1); Eng.: urine; Fr.: urine; Germ.: Harn, Urin.

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(1) This word is of Arabic origin; the Arabic term *bawl* بول for urine is equally in scientific use in Persian and Turkish.

COMMENTARY

The superstitious beliefs concerning the healing power of saliva are still common in the popular medicine of the Orient as well as that of the Occident.

SYNONYMS: Gr.: σίαλον (*sialon*), πτύαλον (*ptyalon*), πτύελον (*ptyelon*); Lat.: saliva; Egypt.: [hieroglyphs] *psg*; Copt.: ⲡⲁⲥϭⲉ; Ar.: *busâq, bisâq* بصاق, *rudâb* رضاب, *rîq* ريق, *lu'âb* لعاب; Pers.: *âb-dahân* آب دهان, *âb-dahan* آب دهن, *buzâq* بزاق, *khayû, khîv* خيو; Turk.: *tükürük* توكروك, *sâliyâ* ساليا, *aghziyâri* اغزيارى (HANDJÉRI III, 468); Eng.: saliva, spittle; Fr.: salive; Germ.: Speichel.

190. Bawl بول, Urine.

(LECL. No. 391).

GALEN X (XII, 284): The faculty of the urine is sharp and hot and very cleansing. The urine of man is weaker than that of other animals, except that of the castrated pig, which is similarly weak. Washing with urine cleanses freckles (*namash* نمش) and cures lichen (*hazâz* حزاز) and psoriasis (*sa'fa* سعفة). Some people drank the urine of children and adults and were cured of epidemic diseases (*amrâd wabâ'iyya* امراض وبائية). The urine of quadrupeds (*dawâbb* دواب) is often mixed with remedies for arthritis —to enhance their use.

DIOSC. II, (81): When a person drinks his own urine, it cures him of the bite of vipers, of deadly poisons and of incipient dropsy (*haban* حبن). Stale urine is more strongly detersive than fresh for moist ulcers of the head, lichen, scabies and small-pox. The urine of oxen used as instillation soothes earache, and the urine of pigs crushes stones in the bladder. The urine of the animal called λύγξ (*lynx*) — and which is called λυγγούριον (*lyngûrion*) — is said to crystallize as soon as it is passed; (*fol.* 25 *v.*) but this is false. If, however, it is drunk with water, it is useful to the stomach and ulcerated bowels. Urine of asses cures pains in the kidneys.

ANOTHER AUTHOR : The best kind next to the hen's egg is the egg of francolins(1), the partridge (2) and the small partridge(3). On the contrary, the eggs of the duck are bad in their composition. The worst of all eggs, however, are those of geese and ostriches. All eggs are aphrodisiac, particularly those of small birds. Eggs are very nourishing, especially those of the pigeons which quickly fortify. Eggs of the bustard (*hubârâ* حبارى) make a good dye for the hair, and eggs of the land-tortoise (*sulhafah barriyya* سلحفاة برية) are very useful for the cough of small children and for epileptic fits ; but the eggs of the chameleon (*hirbâ* حربا) are a deadly poison.

COMMENTARY

Apart from the superstitious ideas contained in the foregoing article, it gives us some hints that the yolk and white of eggs were in former times important means for composing remedies and chemical substances. Dry collyria were, *e.g.* moistened with the white of eggs, and the same material is still in use in the Orient for popular remedies against ophthalmia.

SYNONYMS : Gr. : ὠόν ᾠόν (*ôón*) ; Lat. : ovum ; Ar. : *baid* بيض ; Pers. : *tukhm-i-murgh* تخم مرغ, *khâya* خايه ; Turk. : *yumûrta* يورطه ; Eng. : egg. ; Fr. : œuf ; Germ. : Ei ; Egypt. : [hieroglyphs] ; *Swh-t* ; Copt. : ⲥⲟⲟⲩϩⲉ, ⲥⲱⲟⲩϩⲓ.

189. Busâq (Bisâq) بصاق, *Saliva.*

(LECL. No. 300).

GALEN X (XII, 288) : The saliva of the person replenished with food is weaker than that of the hungry. Saliva is, in general, incompatible to animals that kill mankind with their stings, or bite. It kills the scorpion.

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(1) Here two names are given, *tudrug* تدرج and *durrâg* دراج which are, according to DAMÎRÎ (*Jayakar* I, 353, foll.) those of two varieties of francolin.

(2) Arabic *qabg* قبج, from Persian *kabk* كبك.

(3) *At taihûg* الطيهوج ; *see* DAMÎRÎ (*Jayacar* II, p. 257).

terebinth-resin or pitch. The flour is more active than the stone and preferrable for healing inveterate ulcers, and for gout (*niqris* نقرس). If powdered, instead of natron (*natrûn* نطرون) on fat bodies during the bath, it emaciates them.

Ibn Ridwân: It strengthens the vision and clears white specks (corneal leucomata).

COMMENTARY

It is not possible to determine exactly what kind of substance the *lithos Assios* (Assian stone) of Diosc. and Galen is. Its name is derived from the town of Assos in the Troad. It may have been alunite, a mineral composed of alum together with normal hydrate of aluminium, a soft mineral which is easily disintegrated by atmospheric action.

The name *bârûd* is Persian and designates all kinds of powder, including saltpetre. This name was in use for the *Assian stone*, according to IB., in Spain and the Maghrib. As to the name in use in Medieval Egypt, its two different readings in the text are explained in the footnote 3, p. 382.

188. Baid بيض, *Eggs*.

(Lecl. No. 392).

Galen (1): That which we know and which is easily procurable is the hen's egg. We are in no need of another kind if we have it (2). Its quality is a little cooler than the well-tempered body, and desiccative without pungency.

Diosc, II (50): The hard-boiled egg is more nourishing than the half-boiled (3), and this latter more than the raw.

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(1) This passage is extracted from Galen's *De Simplicium Medicamentorum Temp.*, etc. Book XI, chap. 31 (ed. Kuehn XII, p. 351). IB. simply copied it from Gh., a new proof for his absolute dependence on the latter's book.

(2) Abridged by BH.; Galen continues: "as they are of the same nature."

(3) *An-nimbirisht* نمبرشت, from Persian *nîmburusht* النيمبرشت, *i.e.* "half-boiled" or "poached" egg.

bîgâdaq بيجادق (STEINGASS) ; Pers. : *bîjâda* بيجاده, *bîjâdî* بيجادى, *bîjâd* بيجاد, *riwâq* رواق (SCHLIMMER, p. 305, NAFICY I, 904), *hajar-i-Sailân* حجر سيلان ("Ceylon stone," NAFICY), *'aqîq-i-surkh* عقيق سرخ ("red cornelian," NAFICY), *sang-i-Sulaimân* سنك سليمان ("Solomon's stone" جير, NAFICY), *shabchirâgh* شبجراغ ("night-lamp," SAMY, p. 1155) ; Turk. : same names and *Suleymân tâshi* سليمان طاشى (1) (SAMY, p. 1155), *bizâdî* بزادى (HANDJÉRI II, 168) ; Eng. : garnet ; Fr. : grenat ; Germ. : Granat, Granatstein.

187. Bârûd بارود (2), *Assian Stone,* (Alurite ?).

(LECL. No. 72).

A black stone which is called by the Egyptians "Chinese salt" (3).

DIOSC. V (124) : Λίθος Ἄσσιος (*lithos Assios*). The choicest is that which resembles the colour of pumice (*qaisûr* قيسور), which is soft, light, easily crushed, and which has deep-yellow veins. As to the fine flour of this stone, it is a fine salt which collects on it, and which is partly white and partly pumice-coloured, inclined to yellow ; it is slightly pungent to the tongue.

GALEN IX (XII, 202) : This stone is called *Assios* ; it is not hard though it resembles, in colour and consistency, the stones which are formed in bath urns. There is something developed on it like the dust-deposit on the walls of mills. This remedy is called "fine-flour of the Assian stone." It is the rock which generates this fine-flour, and its salinity probably indicates that it is formed from the dew rising from the sea and falling on it, and later dried by the rays of the sun.

DIOSC. : The faculty of this stone and of its fine-flour is putrefactive and resolvent to abscesses (4) when mixed with

(1) "Solomon's stone."

(2) In both MSS., T. and G., a serious copyist's error : *bârzad* بارزد (which means galban-resin) instead of *bârûd* بارود.

(3) *Milh as-Sîn* ملح الصين ; IB. reads *thalg as-Sîn* ثلج الصين, *i.e.* "Chinese snow."

(4) In T. and G. *girâhât* جراحات (wounds) instead of *khurâgât* خراجات (abscesses)

and the medicine of the Arabs from Persia, as its name is Persian. A copyist's blunder made it in our MSS. *birâdî* رادى., which word has no meaning, and this, perhaps, is the reason why IB. did not copy this chapter from Gh., but missed it altogether.

As to the name *bizâdî* [1] it designates in Persian a sea-green stone, the beryl (STEINGASS) or some other green kind of jacinth (*yâqût* ياقوت., DOZY I, 81).

The name *bigâdî* بجادى. alone designates the garnet. It is the Arabicised Persian *bîjâdî* بيجادى. or *bîjâd* بيجاد. which means a blood-red stone; it has another Arabicised form *baijâdaq* بيجادق. (STEINGASS).

The garnet is mentioned in all the Arabic and Persian lapidaries. A remarkably well-informed article is in IBN AL-AKFÂNÎ's above-mentioned book [2]. He gives another name for garnet, *banafsh* بنفش. (Persian, meaning "violet"), which may refer to a violet variety, or, according to CLÉMENT-MULLET, a kind of jacinth or zircon. He says that the best kind of garnet is found in Ceylon, while other kinds are found in Badakhshân (Central Asia), in Spain and in the "Land of the Franks." This refers probably to Bohemia where the commonest quarries in Europe exist. Akfânî confirms the fact that rubbed garnet attracts light feathers. Indeed there are many precious stones which possess electric properties. It is possible that this property misled several Arab authors to confuse *bigâdî* — garnet — with amber.

The superstitious and medical uses of garnet lasted until the end of the XVIIIth century. We find, *e.g.* in a German pharmacopoea of 1748 [3] the *lapis granatus* or *rubinus de rocca* recommended for dysentery, haemoptysis, gonorrhoea, and as an "absorbant remedy" fortifying the heart and nerves.

SYNONYMS: Ar.: *bizâdî* بزادى. (Gh., IDRÎSÎ), *bigâdî* بجادى., *yâqûtâ al-bigâdî* ياقوتة البجادى. (DOZY I, 81), *banafsh* بنفش. (AKFÂNÎ)-

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[1] This same name for garnet is given by IDRÎSÎ (I, 75).

[2] See p. 357, note 4.

[3] GEORG HEINRICH BEHR, *Materia Medica.* Strassburg, 1748, p. 263.

treatises on commerce (AL-AKFÂNÎ). AD-DAMÎRÎ in his Zoological Treatise has a long article [1] on the bezoar-goat which he calls *iyyal* ايل.

The later European authors distinguished between Oriental and Occidental bezoar, the latter being imported from Peru. They all complained about frequent adulteration, as the real Oriental drug was rare [2].

SYNONYMS : Ar. : *bâdzahr* بادزهر, *fâdzahr* فادزهر, *bâzahr* بازهر, *banzahîr* بنزهير (popular name, Modern Egypt), *hagar at-tais* حجر التيس ("goat stone "SCHIMMER), *masûs* مسوس (HANDJÉRI I, 249) ; Pers. : same names, and *pâdzahr* پادزهر, *pâzbâ* پازبا (VULLERS), *pânzahr* پانزهر (STEINGASS), *pâdzahr-i-haîyawânî* پادزهر حيوانى (ABÛ MANSÛR) ; Turk. : *padzehr* پادزهر, *pânzehir* پانزهر (AVNI 76) ; Eng. : bezoar-stone ; Fr. : bézoard ; Germ. : Bezoarstein.

186. Bizâdî بزادى [3], *Garnet.*

(LECL. missing).

It is also *al-bigâdî* البجادى.

BOOK OF STONES [4] : The ore exists in the East ; when it is first found it is dark and does not shine. If it is cut by the jeweller its beauty is exposed and it shines brilliantly. If worn mounted on a ring (*fol.* 25 *r*) in the weight of twenty-five grains, it eliminates evil dreams. Fixation of sun's rays with the eyes diminishes the sight, so does long fixation of this stone. The choicest kind is that which is very red and very brilliant. If rubbed against the hair of the head, it attracts from the ground small particles of dust and straw (magnetic).

COMMENTARY

The garnet is a precious stone which seems to have been unknown to the Greeks. It was introduced into the commerce

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[1] Transl. of JAYAGAR I, pp. 222–6.

[2] *See, e.g.* POMET, *A Complete History of Drugs* (written in French and done into English), London, 1712, pp. 235–8.

[3] In T. and G. *birâdi* برادى.

[4] In RUSKA's edition, pp. 102 and 143.

(removing) poison," from which word the Arabic and European names are derived. This remedy of superstition was unknown to the Greeks; it is, like its name, of Persian origin. The real Oriental bezoar-stone is not a mineral, but a gall-stone obtained from the Persian Bezoar-goat (*Capra aegagrus Gm.*), according to WOEHLER's researches (1).

The miraculous effects of bezoar were described or mentioned in hundreds of Arabic and Persian pharmacological, toxicological and mineralogical treatises. The most detailed account on bezoar is found in the *Book on Precious Stones* of the Persian physician AT-TÎFÂSHÎ (d. 1253 A.D.) (2). He knew that the bezoar-stone was of an animal origin, but believed that the goat in which it was formed must have lived chiefly on poisonous snakes. In this manner he explained the antidote action of the drug. The idea was that poisoning causes coagulation of the blood; that the bezoar stops this process and eliminates poison and bad chymes from the body by vigorous perspiration.

The Egyptian physician IBN AL-AKFÂNÎ (d. 1348 A.D.) composed a book on precious stones (3) in which he gave details on the bezoar-stone more than any other scholar: "Bezoar originates in the gall-bladders of some mountain-goats in the land of Shankâra in the mountains of Shîrâz (South Persia).... It is usually acorn-shaped; its colour is green or grey. In old animals it is made up of superimposed layers, and its weight, though its material is light, reaches 10 *mithqâls*."

BÎRÛNÎ in his *Drug-book* speaks of five different colours of the bezoar-stone.

The bezoar-stone is also mentioned in many Arabic cosmographies (AL-QAZWÎNÎ. AD-DIMISHQÎ), geographical works and

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(1) H. FUEHNER, *Bezoarsteine*, in *Janus* 1901.

(2) كتاب ازهار الافكار فى جواهر الاحجار لشهاب الدين ابو العباس احمد بن يوسف التيفاشى
A beautiful MS. of it exists in the Taimûriyya Library (which now forms a part of the Egyptian Library) in Cairo. A RAINERI BISCIA's edition of 1818 (reprint 1906) is inadequate; an edition suiting modern requirements is badly needed.

(3) كتاب نخب الذخائر فى أحوال الجواهر لشمس الدين محمد بن ابراهيم بن ساعد الانصارى (ابن الاكفانى)
published by Father LOUIS SHEIKHO in *al-Mashriq* المشرق, XI (Beyrouth, 1908), p. 751. foll. A German translation is found in WIEDEMANN XXX (1912), p. 211 foll.

animal and vegetable poisons and the bite and sting of (poisonous) insects. If taken, powdered and sieved, in a dose of 12 grains it saves from death; even if put into the mouth of a poisoned person and chewed it is successful.

IBN GULGUL: It is a yellowish stone marked with white lines. IBN AS-SAQALÎ (1) informed me that he saw it in the mountains of Cordova. In the East it is renowned amongst the most illustrious kings.

AR-RÂZÎ (2): It is a yellow, soft and tasteless stone, from which I have seen marvellous action against the poisonous effect of Indian *bîsh*, (aconite) (3). The stone which I saw was yellowish white, like the colour of white wine with scales like alum.

'UTÂRID IBN MUHAMMAD عطارد بن محمد (4): The bezoar-stone, if placed opposite the sun, transudes a certain fluid. If this transudation is sucked it is useful against high fever and ophthalmia.

ANOTHER AUTHOR (5) It has various colours: grey, yellow or impregnated with a little greenness or whiteness and dotted. The best kind is the pure yellow, and next to it is the grey.

COMMENTARY

The literature, both Oriental and European, on the bezoar-stone is so large that it is not possible to mention it in detail within the limits of our commentary (6).

The name is Persian: *pâd-zahr* پادزهر, "protecting (from) poison," or, according to some scholars, *pâw-zahr* پاوزهر "cleansing

(1) An unknown scholar "the son of the Sicilian", probably migrated to Spain from Sicily.

(2) In his book entitled "The Royal Medicine" (*At-Tibb al-Mulûkî* كتاب الطب الملوكي.

(3) *See* chapter 181.

(4) He was a scholar (astronomer) of the IXth cent. A.D. and author of the oldest existing book on precious stones; (*see* BROCKELMANN I, 243). A MS. is in Paris, (2775, 3) another in Istanbûl (Ayâ Sofia, 3010).

(5) This passage is again extracted from the Pseudo-Aristotelic "Book on Stones." *See* RUSKA's aforementioned edition, pp. 105 and 148.

(6) We refer to J. RUSKA's learned article *Bezoâr* in *The Encyclopedia of Islâm*, vol. I. p. 710.

disintegrated by the action of sun and air. The stone was consecrated to Isis and Artemis Selenè, the moon-goddess and the goddess of chaste love. In the Middle Ages it was used to adorn the statues of St. Mary (whence the German and French names; *vide infrâ*). The *aphrosélinos* ("moon froth") is the same mineral in efflorescence; it has then really some likeness to foam.

It is mentioned once or twice in the Egyptian Demotic Magical Papyrus under its Greek names.

SYNONYMS: Gr.: σεληνίτης λίθος (*selênítês líthos*, DIOSC.), ἀφροσέλινον (*aphrosélinon*, DIOSC.), ἀφροσέλινος (*aphrosélinos*, GALEN); Lat.: selenitis (PLINY XXXVII); Ar.: *bisâq al-qamar* بصاق القمر *zabad al-qamar* زبد القمر, *raghwat al-qamar* رغوة القمر, *hagar al-qamar* حجر القمر, (IB.), *bawraq al-qamar* بورق القمر (al-Qazwînî); Pers.: *sang-i-qamar* سنك القمر (HANDJÉRI III, 500), *mahwar* مهور (VULLERS, HANDJÉRI *ibid.*, STEINGASS); Turk.: *ây köpüyü* اى كپوكى (HANDJÉRI *ibid.*), *âlchi* الچى (*i.e.* gypsum, AVNI, p. 550, SAMY); Eng.: moonstone, lunar stone, selenit, isinglass-stone; Fr.: selénite, pierre lunaire, miroir de Ste. Marie; Germ.: Mondstein, Selenitstein, Marienglas, Fraueneis (Gypsspat).

185. Bâdzahr بادزهر, *Bezoar-Stone.*

(LECL. No. 230).

Its meaning in Persian is "antidote against poison."

BOOK OF STONES (1): It is useful against "hot" and "cold" poisons, drunk or suspended (round the neck). Its native places are in China, India and the East. There are many stones resembling it without having the same specific property, such as the *qubûrî* القبورى (2) and the marble (alabaster) (*marmar* المرمر), the latter of which cannot rival it, but is often substituted for it. It is a valuable stone, soft to the touch, but not exceedingly so, fine in action and extremely useful against

(1) This chapter is abstracted, but not literally, from "The Book of Stones" (Lapidary) falsely ascribed to Aristotle. It is of Mediaeval origin, as proved by J. RUSKA (*Das Steinbuch des Aristoteles*, Heidelberg, 1912).

(2) I.e. "the stone of the tombs;" perhaps an old mistake for *qubrusî* قبرصى, i.e. Cyprian-stone ?

Diosc., Galen), ἀφρόλιτρον (*aphrólitron* Galen); Lat.: nitrum, spuma nitri (Pliny); Ar.: *bawraq* بورق, *natrûn* نطرون, *zabad al-bawraq* زبد البورق, *bawraq zabadî* بورق زبدى, *tinkâr* تنكار; Pers.: *bawra* بوره (Vullers I, 275), *shakar safîd* شكر سفيد ("white sugar," Vullers *ibid.*); Turk.: *nâtrûn* ناطرون, *sôdé* سوده, *latrûn* لطرون (Handjéri II, 567); Eng.: unclean natron, sodium carbonate; Fr.: natron, carbonate de soude; Germ.: Natron, Sodiumkarbonat.

184. Bisâq al-Qamar بصاق القمر "*Moon-Stone*" (1), Calcium Sulphate.

(Lecl. Nos. 301 and 602).

It is also called "froth of the moon" (*raghwat al-qamar* رغوة القمر) and "cream of the moon" (*zabad al-qamar* زبد القمر).

Diosc. V (141): Λίθος σεληνίτης (*lithos selênitês*) or moon-stone (*hagar al-qamar* حجر القمر). It is also called ἀφροσέληνον (*aphrosélênon*) or "froth of the moon" (*raghwat al-qamar*). It is so called because it is found by night under a waxing moon. The choicest is the white, laminated and light one which is common in Arabia. It is rubbed, and the dust that falls off is given as a drink to sufferers from epileptic fits. Women wear it instead of an amulet. If suspended on a tree it causes it to yield fruits.

Galen IX (XII, 208): People believe in its utility against epileptic fits; but we have not examined this and have no information to give about it.

COMMENTARY

The "moon-stone" or selenite of the Ancients is very probably the foliated, transparent, unclean calcium sulphate (crystalline gypsum, isinglass-stone), which is extremely frequent in Arabia and the Egyptian and North African deserts (2) and is

(1) Literally "spittle of the moon;" the word *bisâq* بصاق is vocalised in T. *busâq*.

(2) *See* below chapter 225 (*gibsîn*).

respond to our " nitre," but is a mixture of soda (Na^2O), sodium carbonates, sodium hydroxide, sodium chloride and other sodium salts which are naturally found in many desert regions of Asia Minor and Egypt. In the Lybian desert, to the west of Cairo, are the salt-lakes of "the Natron Valley" (*Wâdi 'n-Natrûn* وادى النطرون) which yield salt and soda and are still exploited by an industrial company. The *aphrónitron* was probably an unclean mixture of sodium carbonate and bicarbonate, with salt or a nitrate of calcium, $Ca(NO_3)_2$. The terms *borax* and *natron* are derived from the Arabic names ; *bawraq* is the Arabicised form of Persian *bawra* بوره, *natrûn* نطرون the Arabicised Greek *nitron*.

The *bawraq al-gharab* بورق الغرب (RÂZÎ) or *bawraq-i-bîda* بورق بيده, *i.e.* " nitre of the willow " (ABÛ MANSÛR, p. 237) was perhaps salicin, a bitter salt which is contained in the bark of the tree.

The exploitation of natron in Egypt dates from the earliest times. It was mostly brought from the Natron Valley, the ancient [hieroglyphs] and ⲥⲱϣⲉ ϩⲙⲟⲩ of the Copts. Natron was used by the Ancient Egyptians for many purposes, most important of which was dehydration of bodies for the purpose of mummification and the purification of the mouth (1). The Natron Valley has become celebrated since the establishment of the Monasteries in it, round about the early part of the IIIrd cent. A.D.

In Medicine it figures in almost every Egyptian medical papyrus —whether ancient or Coptic.

Besides the use of *bawraq* for washing, soda and glass-making it was very much in use for medical purposes, especially in ophthalmology (for taking away corneal opacities).

SYNONYMS : Ancient Egypt. : [hieroglyphs] ; Copt. : ϩⲟⲥⲙ̅ⲉ̅, ϩⲙⲟⲩ ; Gr. : νίτρον (2) (*nitron.* DIOSC.), ἀφρόνιτρον (*aphrónitron*,

(1) For more ample information *see* the learned publications of A. LUCAS, *The occurrence of Natron in Ancient Egypt and the Use of Natron in Mummification.* Journ. of Egyptian Archaeology, *XVIII* (1932) pp. 62–56 and 125–136.

(2) The word nitre comes from Egyptian [hieroglyphs] *ntr.*

nitre (*aphrônitron*) is that the latter is dry and looks like white wheat-flour and is not like the powdered stone, which is brought from Assos ([1]), and which is ash-coloured. The frothy nitre is not sifted like flour (*fol.* 24 *v.*), but is solid and compact. It is this kind which people use every day to wash their bodies with in the bath. Its property is not only to cleanse dirt, but also to dissolve purulent humours causing itch. If it did not cause nausea and provoke vomiting, it would be most successful in liquifying viscous (bad) humours (chymes), and would cure one from the absorption of poisonous mushrooms (futr فطر, toad-stool) ([2]).

Another Author ([3]) : The nitre is of two kinds, natural and prepared. The natural is the mineral one. The latter is also of two kinds, Armenian and Egyptian. The Armenian is the better; but we never see it here ([4]). The Egyptian is of two kinds : one is called *natron* and is a stony salt of reddish colour and saline flavour with some bitterness which proves its burning quality; the other is called " bread nitre " (*bawraq al-khubz* بورق الخبز) because the bakers of Cairo dissolve it in water and paint the bread externally with it before baking it in order to make it shiny. Of a lower quality is the prepared nitre which is called by us ([5]) *natron*. It is a calcarious salt in shining pieces from which glass is made with lead solution (*rutûbat ar-rasâs* رطوبة الرصاص) and alkali ([6]). Glass-makers mix them together and put them in the fire. It is also called [*at-tinkâr* التنكار] ([7]).

COMMENTARY

Bawraq—natron of the Greeks and Arabs — does not

([1]) In the text of T. and G. *Afsus*, copyist's error. Assos was a town in the Troad (North-West of Asia Minor). *See* below chapter 187.

([2]) The last phrase is missing from Galen's work; perhaps an interpolation by an Arab scholar.

([3]) This is, according to IB., again the above-mentioned Ibn Wâfid.

([4]) In Spain.

([5]) In Spain.

([6]) Arabic *al-qaly* القلي; this is the ash of the burnt plant *ushnân* اشنان (Salsola Kali L.), containing potassium carbonate; *vide suprâ* chapter 76 (p. 173 foll).

([7]) This word is missing from both texts, T. and G. and has been supplied by us.

IBN IS-HÂQ (1) : There are many kinds of *bawraq*; one of them is the Armenian which is imported from Armenia, and the so-called *natron* which is brought from the Oases (2). The latter is of two species, a red and a white one, and it resembles rocksalt (*milh ma'danî* ملح معدنى); its flavour is intermediate between acidity and salinity.

IBN WÂFID (3) : The *bawraq* has many kinds and its native places are numerous. There is a kind which is liquid and afterwards petrifies, and another kind which is calcareous from the beginning. Some of it is red, some white, grey or multi-coloured. Natron, though belonging to the class of *bawraq*, has different active properties from *bawraq*.

AR-RÂZÎ : Its kinds are many ; among them " the goldsmith's natron " (*bawraq as-sâgha* بورق الصاغة) which is the white and earthy, and " the frothy " (*az-zabadî* الزبدى) which is the best of them and whose colour is earthy-grey. Another kind is " the natron of willow " (*bawraq al-gharab* بورق الغرب) which is found in the willow tree.

DIOSC. V (113) : Νίτρον (*nîtron*). The choicest is the light and rose-coloured or that white and porous like a sponge. That which is called ἀφρόνιτρον (*aphrónitron*) (4)—meaning "cream of natron "— is, so it is said, the Armenian. Its choicest kind is the laminated which is easily crushed, purple-coloured, resembling froth and of pungent taste, like that which is brought from the town of Philadelphia (5). The second in quality is the Egyptian; it also exists in the district of Magnesia in the land of Caria (6).

GALEN IX (XII, 212) : The difference between the white African nitre which is known as " the frothy" and the froth of

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(1) IB. reads IS-HÂQ B. 'IMRAN which is probably more correct.

(2) The Western Oases of Egypt, especially that called *Wâdi'n-Natrûn* وادى النطرون.

(3) *See Introduction* No. 40 (p. 23).

(4) Or ἀφροῦ νίτρον or better ἀφρὸς νίτρου.

(5) In Lydia (Asia Minor).

(6) Asia Minor.

There is another kind [1] which is black and tree-like, possessing more branches than the first and with a smell stronger than it. Its faculty is the same, caustic, dries the tears and rejoices the heart. It is useful against deafness when dropped into the ears mixed with balsam-oil [2].

COMMENTARY

The first kind is the red coral (*Corallium rubrum Lam.* or *Isis nobilis Pall.*), the second one of the numerous black corals (*Antipathes subpinnata, A. Larix*, etc.) both indigenous to the Mediterranean. The name *bussad* بسد is not Arabic, but Persian. Red corals are still sold in the Cairo bazaars (DUCROS, p. 124) under the name of *morgân* مرجان or (falsely) *dam al-akhawain* دم الأخوين as remedies, particularly for dry collyria against corneal specks and opacities in the eyes. PLINY thought the coral to be a plant, DIOSCURIDES and others a stone [3].

SYNONYMS : Gr. : κοράλλιον (*korállion*, GALEN), κουράλιον (*kourálion*), λιθόδενδρον (*lithódendron*, DIOSC.) ; Lat. : curalium (PLINY XXXII) ; Ar. : *bussad* بسد, *murgana* مرجانة, *hagar shagari* حجر شجرى ; Pers. : *bussad, busad, bisad* بسد, *bîstâm* بستام (VULLERS I, 239), *khurûhak* خروهك (VULLERS, HANGJÉRI I, 534), *marjân* مرجان (SCHLIMMER), *basar* بسر (dead coral, NAFICY I, 404) ; Turk. : *marjân* مرجان ; Eng. : red and black coral ; Fr. : corail rouge, noir ; Germ. : schwarze, rote Koralle.

183. Bawraq بورق, Soda, Natron (*Sodium Carbonate*).

(LECL. No. 381).

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[1] This is DIOSCURIDES' following article (V, 122) on the black coral ἀντιπαθές (*anti pathês*).

[2] The last phrase is not found in DIOSC.'s text ; probably an interpolation by an Arab physician.

[3] In 1677 it was still one of the questions in the doctorat-examinations for apothecaries " whether the coral was a plant " (DORVEAUX, *Une thèse de pharmacie*, Paris, 1901). and it was not earlier than 1711 that the animal nature of the coral was definitely proved (by COUNT MARSIGLI) !

(*bîsh barhamî* بيش برهمى) and of "aconite of horns" (*bîsh al-qurûn* بيش القرون).

Synonyms: Ar., Pers. and Turk.: *bîsh*, *khâniq an-nimr* خانق النمر; Moreover Pers.: *tawâra* طواره (Vullers, Issa), *halâhal* هلاهل (Abû Mansûr); Turk.: *qaplan bughan* قپلان بوغان ("choking the leopard"), *qaplan otu* قپلان اوتى ("leopard's plant" Handjéri), *qurd boghan* قرد بوغان ("choking the wolf," Samy); Eng.: bish poison, Indian aconite; Fr.: aconite féroce; Germ.: grimmiger Eisenhut, indischer Strumhut.

182. Bussad بسد, *Coral.*

(Lecl. No. 282).

It is *al-murgân* المرجان (the coral).

Diosc. V (121): κοράλλιον (*korállion*) (1); it is also called λιθόδενδρον (*lithódendron*) or "the stony tree." It is said that it is a marine plant which grows in the depth of the sea, and that when it comes out of the sea and is in touch with the air, it is hardened and becomes rigid. It is plentiful in the mountain called Πάχυνον (*Pâkhynon*) (2) which is near to the town of Syracuse. The best kind is the red one which resembles the substance called Συρικόν (*Syrikón*); it is said that it resembles the colour of red lead (*isring* اسرنج, minium) or the saturated colour of the substance called σάνδυξ (*sándyx*) (3), *i.e.* cinnabar (*zungufr* زنجفر). It is the kind which is easily crushed in all its parts, homogeneous and having a smell like that of sea-weed (*tuhlab bahrî* طحلب بحرى) and has many branches like the cassia-tree (*salîkha* سليخه, *Cinnamomum Cassia Bl.*). However, that which is stony and soft is bad. Its faculty is astringent, moderately refrigerating and detersive. It is very useful for haemoptysis.

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(1) Or κουράλιον (*kurálion*).

(2) The most southern promontory of Sicily.

(3) Probably red ochre.

knotty is the most malignant and deadliest kind of aconite, the quickest and most sudden in action; a little of it has a great effect and causes a profound result. It is the most fatal and destructive of all the poisons....... Its action appears in from half to one hour; for after this period, the person (who took aconite) is to be considered as virtually dead. Indeed, as soon as convulsions appear in the person who drinks it, there is no hope for him except when Allâh wills otherwise."

At the end of the "Discourse on the Animal Poisons Acting on the Body" Pseudo-Gâbir speaks again of the aconite:

"A person who takes a small quantity of it feels at first sudden vertigo with dimness of sight. This is followed by continuous and repeated convulsions ending in unconsciousness (*ghushâ* غشى), collapse (*dhubûl* ذبول) and then death. If the dose is big, the signs begin with convulsions, swelling of the tongue, and protrusion of the eyes as if they were dislocated from the orbit. This is followed by unconsciousness, and recurrent convulsions until death."

In the chapter "On Vegetable Poisons" the author speaks about the treatment of aconite-poisoning. This chapter, however, is too long for its translation to be included within the limits of this commentary. Anyhow, Pseudo-Gâbir's description of the symptoms is the best we could find in all the Arabic literature.

There is another manual of toxicology, the earliest of all, which is a "Book on Poisons" by the Indian statesman Chanakya [1]. It was translated into Persian under the reign of the Caliph HÂRÛN AR-RASHÎD and into Arabic by order of his son the Caliph AL-MA'MÛN (d. 833 A.D.). A hand-copy of this translation exists in the Egyptian Library in Cairo [2]. We examined it, but unfortunately were disappointed to find nothing in it about aconite except the mention of "Brahmanic aconite"

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[1] He is supposed to have lived ab. IVth cent. B.C. and is said to have been minister to King Chandragupta.

[2] MS. 60 *Tibb*: طب ٦٠ : كتاب شاناق فى السموم والترياق. An edition with translation was published by Miss B. STRAUSS: *Dar Giftbuch des Shânây*. Berlin 1934.

Geber by the Medieval Latin translators. Careful textual criticism, however, proved that Gâbir's (mostly unpublished) works were spurious. They were the work of some alchemist of the Xth cent. A.D. who wrote in secret for the benefit of the strictly banned Ishmaelitic (Shi'ite) propaganda (1). Gâbir's main work *On Poisons* is a bulky treatise, of which a MS. exists in the Taimûriyya library in Cairo (2). There is no special chapter in it on *bîsh* (Indian aconite), but it mentions it in several places and we give here some extracts.

In the second chapter (*fasl* فصل) of his book, Pseudo-Gâbir speaks about the sub-divisions of remedies and poisons. Concerning Indian aconite (*bîsh*) he says:

" We say, *e.g.* that the grey aconite is more powerful in its action and has a more complete penetration in the tissues than the yellow and black. The grey is a kind or a species of aconite; that is to say that we make " aconite " a generic name and say of it: 'the grey of Khurâsân, the yellow Indian and the black of Kalah (3) belong to it.' These are really different species of aconite bearing its name."

Later on he continues:

" Scientists pretend that aconite is a kind of costus and that it is one of its species. This is not the place to discuss the habitats of this drug and its real nature; we referred to all these questions in the book specially devoted to plants (4), their kinds, their other particularities, their utility and nocivity, their dosage and the degrees of their qualities, etc..........."

" I say that the dark and galingal-like kind or species of aconite, which is rough to the touch, variegated in colour and

(1) *See* J. Ruska and Paul Kraus, *Der Zusammenbruch der Gâbirlegende*, Berlin, 1930.

(2) This precious library is now housed in the great Egyptian Library, as a gift of the sons of the late lamented Taimûr Pasha to the Nation. Through the kindness of the librarian we were authorised to copy some passages concerning aconite from this MS which bears the title كتاب السموم ودفع مضارها لأبى موسى جابر بن حيان الصوفى (" Book of Poisons and the Prevention of their Harm." by Abû Mûsâ Gâbir b. Hayyân the Mystic ").

(3) This is the old name of a district in Malacca (Further India).

(4) There is no such book preserved among the many MSS. of Pseudo-Gâbir's scientific extant collection.

together in order to treat him, but without any avail. However, there came an Indian who pretended to have the power and knowledge of curing him. The patient asked him what kind of reward he expected for the cure. The other replied: I have not come with a motive of profit like those ignorant people who are deceiving you, but I have come to give you advice. If my treatment is successful, the question of reward by a gift is open between you and me. The patient asked him: " Which treatment do you intend to apply, cutting or cauterising? He replied: I shall not lift up a shirt off you nor untie a lace or a trouser; I shall only ask you to uncover the sacral region, the back and hips. Then he made scarifications on his back and above the region of the kidneys and caused his blood to flow by friction with aconite (*bîsh*), whispering formulas of exorcism —for they (the Indians) cannot do without them! He then fed him on a small quantity of Indian aconite (*bîsh*) and covered him up again, and gave him rest. When the wounds were nearly cicatrised, he removed the scab, did the same thing he did at first, and repeated the procedure several times. The haemorrhoids were cured; they disappeared completely and did not relapse until the end of the patient's life, which was very long. The patient honoured him (the Indian) and granted him a gift, and then dismissed him."

This story, not very convincing from a medical point of view, proves beyond doubt the widespread use of the poisonous and non-poisonous kinds of aconite in the East.

Another category of Arabic literature which contains abundant information on aconite are the numerous "books of poisons" composed by Oriental medical practitioners (1). One of the most comprehensive is that ascribed to GÂBIR IBN HAYYÂN جابر بن حيان, supposed to have lived in the VIIIth cent. A.D., famous, in the History of Science as the Father of Arabic Alchemy, and called

(1) M. STEINSCHNEIDER (*Die toxicologischen Schriften der Araber bis Ende des XII, Jahrhunderts*, in Virchows Archiv, vol. LII, Berlin, 1871, pp. 341–503) made a record of 38 such books; but it is far from being complete.

Some Indians mentioned that both *halâhal* and *kâlakût* are two names for one thing, *viz.* a kind of black aconite inclined to verdigris colour. The white *brahman* is its best kind and resembles sweet-flag (*al-wagg* الوج). it is used in medical treatment. Then follows the colour which is not white, and the malignancy (of the drug) increases, until *shûdar* the black and broken, which is the strongest. The fatter, less sectioned and rugged the drug is, the stronger its action. The worst time to drink it (the drug) is from sunrise to mid-day. As to *al-halhal* it resembles Arabian costus (*al-qust* القسط) which resemblance makes people forbear to taste the latter.

There is another kind of it called *sharank* شرنك or the galingale-like (*as-su'di* السعدى) on account of its likeness to it. It grows on the mountain called *Kâlîdhâr* كاليدهار (1) and which is on the frontiers of Kashmîr, neighbouring *Waihind* ويهند (2). The druggists say that there exists some of it (aconite) in *halâwush* هلاوش (3), in costus and likewise in *kirwa* كروه (4). It is procured by making use of water; then the aconite is precipitated and the *kirwa* floats on the surface."

(The last part of this paragraph is from BÎRÛNÎ's own informations). He gives, moreover, an interesting passage upon the "poison healers," a kind of medical specialists of Old India, and a narrative about a case, of which he had direct knowledge concerning an aconite-treatment (5):

"A prominent man of Gardêz((6) told me that his father suffered severely from haemorhoids and that his conditions went from bad to worse. All the physicians of the country gathered

(1) Now called the Hindukûsh Mountains.

(2) The ancient capital of the Province of Qandahâr, now South Afghanistân.

(3) A drug unknown in Arabic and Persian works; perhaps a transliteration of Sanscrit *hilamochikâ* (*Enhydra Heloncha D.C.*)? *See* DUTT, *loc. cit.* p. 185.

(4) We were not able to identify this Indian drug-name.

(5) In the foreword to his "Drug-book;" recently published in Arabic and German by M. MEYERHOF. *Das Vorwort zur Drogenkunde des* BÎRÛNÎ (Quellen und Studien z. Gesch. d. Med. u. Naturwiss III, 3), Berlin, 1932, p. 192 foll.

(6) كرديز, a town now in the south of Afghanistan.

the centre of its breach is white surrounded by black. *Shûdar* is between yellow and white; half a drachm of it is fatal, and of *jandâl* جندال one *dâniq* kills (1).

Qustâ (2) says: "It is the quickest of all poisons to kill, so much so that its smell is sometimes sufficient to strike one down. So does it also if the top of the head is painted with its fresh juice. It is of three colours, all deadly poisons. The first is the white *brahman*, the most malignant; it kills outright. The second resembles the horns which are found in the nard (*sumbul at-tîb* سنبل الطيب) (3); (follows the same paragraph given by al-Mas'ûdî and evidently extracted from this passage). However, *bîsh* has no connection with the nard, and what is mentioned of the latter's poisonous qualities is limited and does not concern *bîsh*."

Bishr al-Guzzî بشر الجزى (4) says: "It is of five kinds, and the quickest to kill is *al-halhal* الهلهل; it is found in the nard and resembles amber (? *anbar* عنبر). The weight of a mustard-grain of it kills, and sometimes even a lesser weight kills, and there is no antidote. Most of that which is found in the nard is sticky, and it is that which is variegated with black and white."

Ibn Mandawaih (5) says: "*Kalâkût* كلاكوت resembles galingale (bulbs, *su'd* سعد); some people say concerning it that it accelerates death. It is sometimes handed over in the handle of a cane and causes harm. A silk (*qazz* قز) (6) reaches the lands of Islam with which clothes are poisoned; it is called *kalkal* كلكل the tailor sews it with his fingers covered.

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(1) Here we partly recognise the names of the nine principal poisons of the Hindu Medical System, *viz.*: *shringi* (*sarank*), *kâlakuta*, *halâhala* and *brahmaputra* (*brahman*) which were not all kinds of aconite. *See* U. Ch. Dutt. *The Materia Medica of the Hindus* (revised edition, Calcutta, 1900) p. 97 foll.

(2) In the MS. mis-spelt *Qust*; he is the Christian-Syrian physician and translator Qustâ b. Luqâ قسطا بن لوقا of Ba'labakk بعلبك (see *Introduction* No. 21, p. 14).

(3) Probably spurred rye (*Secale cornutum*).

(4) An otherwise unknown author; this paragraph is a gloss on the margin of p. 41 r of the MS.

(5) A Persian physician, lived ab. 1000 A.D.

(6) In the text *qall* قل, copyist's blunder.

he learnt an Indian dialect) and taking all kinds of information from natives as well as from the Indian and Persian literature. We give here the Arabic text of this important paragraph as an appendix to Gh.'s article on *bîsh* and an almost complete translation of it:

" *Bîsh* بيش (Indian aconite). It is called in Indian *bish* بش Its habitat is in India in the mountains of Kashmîr, and the name of the mountain on which it grows is *Shankarnistâgin* شنكرنستاجن (?) at the frontier of *Karnâwa* كرناوه (1) the distance of *Âdishtân* آدشتان, the capital (*qasaba* قصبة) of Kashmîr (2), from it is eighty miles (*karwa* كروه), and the height of the mountain is three miles. The lethal dose (of aconite) is half a *mithqâl*. It is said in the books that quails (*summân*) feed on it and flourish in so doing.

Hubaish (3) says: It is eaten by mice and by the quail (*salwâ*) and apparently it must be something else besides aconite. The aconite, however, resembles galingale (*su'd* سعد, bulb of *Cyperus longus L.*), and its kinds are, according to the sematology (*asmâtîqât* اسماطيقات) of the Indians: *kâldar* كالدر, *mankan* منكن, *sharank* شرنك and *halâhal* هلاهل. *Kâldar* is green *bîsh*, *mankan* is black *shûdar* شودر, *sharank* is white *brahman* برهمن which is deadly, and *halâhal* is yellow *kashtar* كشتر (4).

It is said that the quickest to kill in the dose of the weight of a barley-grain is *kâlakût* كالكوت, black and hard to break, and its breach has — a whitish centre — with three horns. Again it is said of the white *brahman* that one *dâniq* is fatal; of the sweet and hard *bîsh*, which is not compact and reddish in colour, two *dâniq* kill. *Kashtar* is between white and black, hard, and

(1) The name of the mountain could not be identified (Gawrisankar ?). *Karma* is mentioned as a village of Kashmîr in *The Aîn-i-Akbari* by Abul-Fazl Allâmi, transl. Blochmann and Jarrett, vol. II (Calcutta, 1891) p. 367.

(2) *Adhishtâna* is mentioned as the old capital of Kashmîr in *Albîrûnî's India*, Eng. ed. by E. C. Sachau, vol. I (London, 1910) p. 207 & II, p. 181.

(3) *See Introduction* No. 14 (p. 13).

(4) Concerning the botany and the names of Indian aconites, *see* Sir George Watt, *The Commercial Products of India* (London, 1908) p. 18–24.

habitats along the Alpine temperate Himalaya, with many varieties (DYMOCK I, 1-20). *Aconitum heterophyllum Wall.* and *palmatum Don.* are non-poisonous, used as remedies, and may have given origin to the legend of the "aconite mouse" (*vide suprâ*). Another legend amongst the Hindus is that the mere touch of the most poisonous kinds of aconite is fatal.

The western Arabic authors, as quoted by T., Gh. and IB. IBN SAMGÛN, 'ISÂ IBN 'ALÎ and IDRÎSÎ (whose unique MS. we consulted) did not know much about *bîsh*, the Indian aconite. On the contrary, the Persian physicians were well acquainted with the drug and with the Indian medical records of it.

ABÛ MANSÛR (ACHUNDOW, p. 168 foll.) distinguishes five kinds of *bîsh*, the strongest *halâhal* هلاهل, and two mild kinds *hidedî* هددى and *shudhâ* شذى. They are used for the preparation of the *gûlî*-pills in which we recognise the *bal-goli* of the *Materia Medica* of India (DYMOCK I, 15), pills composed of thirty-one ingredients. The *halâhal* is to be identified with *halâhalá* of the Sanscrit medical treatises (1), ABÛ MANSÛR's *hîdedî* with Sanscrit *haridra*.

MÎR MOHAMED HUSAIN of Khorassan, مير محمد حسين الخراسانى, a Persian practitioner of the XVIIIth cent. A.D., gives in his enormous Encyclopoedia of Pharmacology (2) a long article on *bîsh* with much information extracted from old Persian and some Indian sources.

But the most prominent Muslim scholar who wrote about the Indian aconite was AL-BÎRÛNÎ (d. about 1050 A.D.). He devoted a long article to *bîsh* (3) full of interesting quotations and items, for he had lived more than thirty years in Ghazna (now Afghanistân), passing several times the Indian frontier (where

(1) T. A. Wise, *Commentary on the Hindu System of Medicine.* Calcutta, 1845, p. 397 Wise gives to all the drugs a rather arbitrary identification.

(2) *Makhzan al-Adwiya* مخزن الادوية, in-fol. lithogr. Teheran, 1277 A.H., p. 116 foll

(3) In his unedited *Kitâb as-Saidana* كتاب الصيدنة (*see* Bibliography) fol. 40 a–44 a. *Compare* M. MEYERHOF, *Die Einleitung zur Drogenkunde des Bêrûnî.* In Quellen und Studien zur Geschichte der Med. u. Naturwiss. III (1932) p. 157–208.

COMMENTARY

The ranunculacea aconite or wolf's bane and its poison were known from Antiquity. THEOPHRASTUS, DIOSCURIDES and PLINY described one kind ἀκόνιτον (*akóniton*) which is not identical with the kinds of aconite known in our times ; it must have been leopard's bane (*Doronicum Pardalianches L.*) a composita. Another kind is described by DIOSC. (IV, 77) alone and this is identical with our *Aconitum Napellus L.* (" monk's hood "). The Muslim physicians IBN SÎNÂ, IBN SAMGÛN, AL-IDRÎSÎ, Gh. and IB., all treat this European aconite as a separate kind from the Indian one, calling the first *khâniq ad-dîb* خانق الديب ("wolf's bane"). and quoting about it DIOSC. alone. IBN SAMGÛN confuses the matter by giving the Indian *bîsh* بيش the Spanish name *napelo.* DIOSC. says that the leaves, fruit and roots (bulbs) of the plant were used with meat to kill wolves, which were, in Antiquity, the plague of the Greek mountains and forests. The poison is contained mostly in the bulbs in the form of an alkaloid, *aconitine* (extracted for the first time in 1833 by Geiger and Hesse), from which were isolated, in modern times, about six other alkaloids (picraconitine, aconine, etc.) which are all strongly poisonous causing suffocation and mydriasis, by acting on the vagus nerve roots. *Tubera, & Radix Aconiti.* or *Napelli,* etc. are in our days still used as official drugs. The Indian kind, *bîsh,* is sold in the Cairo bazaars, (DUCROS, p. 27) ([1]).

Oriental authors applied the name *bîsh* exclusively to the Indian kinds of aconite ; this name is indeed derived from Sanskrit *visha,* the meaning of which is "poison". The term *bîsh* is in use mostly for *Aconitum ferox Wall.*, a very poisonous kind growing in the Himalayan mountains (Nepal). Other kinds, *Aconitum luridum, Lycoctonum, Napellus* and *spicatum Stapf* have their

([1]) It is probably a mixture of the roots of *Aconitum ferox var. spicatum P.Br.* with *A. laciniatum* and *crassicaulis* (Goris).

in a place called *Halâhal* هلاهل near Sind. It is a plant which reaches the height of about one cubit, and has leaves like those of the endive (*hindibâ* هندبا). The inhabitants of Halâhal eat it fresh or dried; but at a distance of one hundred cubits only from Sind its consumption kills all living beings, except mice and quails (*salwâ* سلوى).

IBN SÎNÂ: It is hot and dry to an excessive degree, causing the disappearance of vitiligo (*baras* برص, "white lepra") when used as a paint. Likewise when drunk in an electuary wherein it has happened to drop. In the same way it is useful against leprosy (*gudhâm* جذام). When half a drachm or even less is drunk, it is fatal. Its antidote (*tiryâq* ترياق) is the aconite mouse (*fârat al-bîsh* فارة البيش) which feeds on it, and the quail (*sumânâ* سمانى) which, likewise, lives on it. The musk-remedy (*dawâ' al-misk* دواء المسك) is also (*fol* 24 *r*) incompatible to it.

AL-MAS'ÛDÎ [1]: The kinds of aconite are three: the first is called *rasîs* رسيس or "the dragon's head"; it is the Brahmanic white (aconite) which kills on the spot. The second is called *al qurûn* القرون ("the horns") and is found in the nard (*sunbul at-tîb* سنبل الطيب); its wood is as thin as half a finger. It is covered with white dots which are like powdered talc or camphor. The third kind is called *at-tafih* التفه ("the tasteless") and is equally obtained from the nard. Its length is that of a knuckle bone as if it were the knotty wood of "the Persian cane" (*al-qasab al-fârisî* القصب الفارسى, *i.e.* sweet-flag, *Acorus Calamus L.*). It is dangerous; the dose which is the size of a sesame, is drunk with vinegar against the sting of scorpions.

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[1] 'ALÎ B. AL-HUSAIN AL-MAS'ÛDI على بن الحسين المسعودى a famous Arab historian and geographer who travelled about 916 A.D. in Sind, India and Ceylon and died in Cairo (*Fustât*) c. 956 A.D. The above passage is perhaps extracted from his renowned book "*The Golden Meadows*" (*Murûg adh-dhahab* مروج الذهب, best edition, Paris, 1861–77) in which he deals largely with Natural History. But the origin of this passage goes back to QUSTÂ B. LÛQÂ (*see* below).

It is a plant with long, slightly dentate and rough leaves, deep green but inclined to be greyish black. It has thin, quadrangular twigs, rising to the height of about one cubit. At their ends there are tiny flowers like those of coriander, distributed all over the length of the twigs.

There is another kind similar to it except that it has larger leaves and branches. It spreads out over the ground in its growth and has a flower which is inclined more to a purple colour. The juice of both kinds, when drunk, causes the discharge by vomiting, of viscous phlegm, is narcotic and useful against nausea (*ghuthâ* غثى).

COMMENTARY

The name of this plant is probably taken from the Spanish vernacular, *verbena* or some other similar word. The Arabic name *magnûn* is applied to several plants ; here in Egypt, *e.g.* it is given to *Cleome arabica L.* Gh.'s description of the two is not quite in accordance with *Verbena supina* which has its habitat in the lands round the Mediterranean. So the question of identity remains here equally unsettled.

180. Bashâm بشام , *Balsam of Gilead* (Commiphora opobalsamum Engl.).

(Lecl. No. 289. *See* above No. 117).

We cited it with the balsam (*al-balasân* البلسان).

181. Bîsh بيش, *Indian Aconite Root* (Aconitum ferox, laciniatum, etc.).

(Lecl. No. 394).

(Ibn Samgûn) (¹) : It is said that it is called in the foreign language (*i.e.* Spanish) *napelo* (*nabâla* نباله) and in Greek τοξικόν (*toxikón, i.e.* " arrow poison ") ; it is said that it grows in China

(¹) This quotation is found in IB. ; probably left out from Gh. by BH.

is still in use in North Africa, but only for several kinds of African millet (*Milium nigricans, Eleusine coracana* and *Penicillaria Pluckenetii*, ISSA, pp. 74, 119 and 136). The description of Gh. agrees more with one of the kinds of *Galium* (rubiaceae). It is possible that there exists a knotty species in Spain. We were not able to get any information.

178. Bada بده, Undetermined.

(LECL. No. 253 : *badad* بدد).

A herb whose leaves are like those of coriander (*kuzbara* كزبره). Its twigs are abundant, shooting off from a single root and are slightly red. Its root has many thin divisions, not white in colour, but fœtid in odour. It grows amongst other cultivation. It destroys warts when used as a paint.

COMMENTARY

This plant equally belongs to the group of undetermined names from Gh.'s own observation. The name is in our MS. T. clearly spelt *bada* بده, but in all the other MSS. and the printed editions of IB. *badad* بدد or *badhadh* بذذ. It is surely a Spanish name, perhaps *bidente* (bidens), designating a group of compositae (Coreopsidinae), some of which have a corrosive juice, and may have been used for eradicating warts.

179. Barbîna بربينه, Uncertain, (Verbena ?).

(LECL. No. 260).

It is also called *marbâna* مربانه (1) and in Berber *antamût* انتموت (2); it is also called "the insane" (*al-magnûn* المجنون), and it is said to be the woad (*al-ʿizlim* العظلم, *Isatis tinctoria L.*).

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(1) IB. spells *barbâna* بربانه which is probably a more correct reading.

(2) Here IB. spells *abûimût* ابويموت ; Gh.'s reading seems more correct.

COMMENTARY

The plant in question has so far not been identified. The foregoing paragraph is Gh.'s own; IB. who quoted it gives the exact vocalisation of the word *bilikhta* بلخته. SIMONET (Glosario p. 439) derives this name from Latin *plecta* (= interlaced) and identifies the plant with the composita *Hieracium pilosella L.* (common hawkweed). The description of the plant applies to many desert plants. Gh. states that its use in gargarisms causes leeches to fall off (which latter abound in the pools of North African deserts and are easily swallowed by men and beasts). This makes us think that the plant must have a strong bitter-saline flavour, which is a characteristic of the many species of *Salsola* (salt-wort, etc.), *e.g. Salsola vermiculata L.*, which bears this name on account of its resemblance to worms. Its Arabic name to-day is *sharîra* شريره (ISSA, p. 161).

177. BASHNA بشنة, Uncertain, (Galium?).

(LECL. No. 290: *bishna* بشنة).

A thin plant with many thin twigs which shoot from one root; it spreads out on rocks, where it usually grows, and reaches the height of one finger. It is knotty like the *sharushra*-plant (1); its greenness is inclined to yellow and white. Its leaves are thin and round and covered with fine down; on them is a viscous substance like honey. It has a very tiny white flower followed by seeds, like fine coriander-grains, kept in small husks. In its flavour there is bitterness and a little astringency. Drinking of its decoction opens obstructions and relieves flatulence.

COMMENTARY

The identification of this plant has equally been impossible in spite of Gh.'s detailed description. He must have seen the plant himself in Andalusia or Morocco. The name *bishna* بشنة

(1) So vocalised in the text T.; G. reads *sharshara* شرشره, IB. (printed edition) *sharîra* شريره, *Lecl. darîra* دريره. As to *sharîra* شريره (*Salsola vermicularis*) see end of article 176.

175. Ballût al-Ard بَلوط الارض, Uncertain (Cyperus ?).

(Lecl. Nos. 174, 340 & 749).

Ibn 'Imrân : Roots resembling acorns, being subterranean like them. On the surface of the earth they appear as broad green leaves like those of the small endive (*sarîs* سريس, *Cichorium divaricatum Schousb.*) (1). It grows in sandy places, often under the roots of the balsam-tree (2). Its flavour is bitter with some sweetness like that of acorn. It is hot, aperient and diuretic.

COMMENTARY

This drug has not been identified. Its Arabic name *ballût al-ard* بلوط الأرض means " acorn of the earth," a translation of Greek χαμαίδρυς (*chamaidrys*) which is a kind of germander (*Teucrium lucidum L.* or another). But this latter plant has no bulbous roots and is, moreover, treated by Gh. in another chapter (*see kamadhariyûs*). It is possible that the drug was one of the kinds of bulbs from cyperaceae (earth-almonds), *e.g. Cyperus bulbosus* or *glomeratus* ; but this is not certain. *Cyperus alopecuroides Rottb.* bears the Arabic name of *samâr* سمار.

176. Bilikhtâ بلخته, Uncertain. (Salsola vermiculata L.?).

(Lecl. No. 343).

A herb which grows prostrate on the ground. Its twigs are very thin, but not so are the leaves ; they (the twigs) do not resemble branches ; they look as if they were worms ; these branehes unite together and form circles on the surface of the earth. It (the plant) has a small white flower with some redness in it. It is used as a gargarism to make leeches fall off.

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(1) In T. mis-spelt *shiris* شريس, in G. *shîrîr* شيرر ; it is the the Greek σέρις (*séris*), chicory, endive.

(2) This probably is a false reading of the text (*bashâm* بشام, *Commiphora Opobalsamum*). IB. reads *shamâr* شمار, *i.e.* fennel, equally not probable.

174. Buhmâ بهمى, *Ray-Grass* (Lolium *perenne L.*).

(Lecl. No. 368).

Diosc. IV (43) φοῖνιξ (*phoinix*), A plant whose leaves (*fol.*23 *v*) are like those of barley, but shorter and smaller. Its ear is like that of darnel (*shailam* شيلم, *Lolium temulentum L.*). The length of the twigs is about six fingers, and there grow round the root seven or eight ears. It grows in places covered with buildings and on roofs which are newly covered with mud. If drunk with an astringent wine it stops diarrhoea and haemorrhage. It is said, that if the plant is tied into a piece of bright-red wool and suspended round the neck of a person suffering from haemorrhage, it stops it.

COMMENTARY

The identity of this kind of the Greek φοῖνιξ (*phoinix*) with the graminca *Lolium perenne L.* was proved by Sprenger and Fraas [1]. The English ray-grass is smaller than the Italian (*Lolium multiflorum*); its medicinal use for diarrhoea, etc., was stopped. It is sown in our days on turf. The name *buhmâ* بهمى seems to be of Syriac origin, although missing from all the dictionaries and from Loew's *Flora der Juden*.

Bîrûnî gives two lines about this plant, quoting a lost passage from the most famous early book of plants:

" Abû Hanîfa says: *Al-buhmâ* has very fine grains which the ants gather in their hills; when people strike at it (an ant-hill) they dig it (the grain) out; its flavour is like that of barley."

Synonyms: Gr.: φοῖνιξ (*phoinix*), ῥοῦς (*rhûs*), ἀγχύνωψ (*anchýnops*, Diosc.); Lat.: lolium (Pliny); Ar.: *buhmâ* بهمى (Gh., IB.), *hashîshat al-faras* حشيشة الفرس (" horse-grass," Mod. Syria), *sanmâh* سماح (Mod. Egypt, Schweinf.), *nusêla* نصيلة (*idem*); Pers.: *buhmâ* بهمى (Steingass); Turk.: no proper name; Eng.: common ray, ray-grass; Fr.: ivraie pérenne; Germ.: ausdauernder Lolch, englisches Raygras.

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(1) The name *phoinix* also designates the date-palm, the dwarf palm (*Chamaerops humilis*), *Nannorhops ritchiana* and *Callophyllis laciniata* (Theophr., ed. A. Hort II, 481 foll.).

ABÛ MANSÛR (p. 165) describes the drug under the same name, but the translator ACHUNDOW (p. 353) confuses *birang* or *birank* with *birinj* برنج, the Persian term for rice, although he identifies the drug correctly with *Embelia Ribes*.

The berries contain embelic acid and are used as a strong vermifuge. They were recommended by Dr. Harris (cf. *The Lancet*, July 23, 1887) as a remedy against tapeworm. The ammonia-salt of embelic acid was afterwards prepared by Merck (Darmstadt) in the form of a modern preparation.

SYNONYMS : Ar. : *birang* برنج, *badang* بدنج (MAIM, No. 66); Pers. : *biranj* or *birank-i-kâbilî* برنج او برنك كابلى . No names in European languages.

173. Bâgirûgî باجروجى (Undetermined).

(LECL. No. 228).

AGRICULTURE : It reaches the height of three cubits and grows in arid and dry soil. Its leaves are like those of the winter cherry (*al-kâkang* الكاكنج, *Physalis Alkckengi L.*). It produces a pink-coloured flower which is followed, when it falls off, by a grain of the size of a chick-pea or smaller, black and soft. Its fruit and leaves are used with vinegar as compresses against soft tumours (*sal'* سلع) and warts (*tha'âlîl* ثآليل). Its fruit is nauseous, emetic and harmful to the trachea. It must not be eaten. Its leaves are useful for haemoptysis, but must not be taken more than once.

COMMENTARY

The incomplete description of this plant does not help towards an identification. The name, too, is probably mis-spelt It may be of Berber origin, beginning with *tâ* تا , or a Syriac mutilation of some Greek word (*bâkharûgi*, *bagarûkhi*, etc.).

black and white and devoid of smell. They are imported from China. It (the drug) is hot and dry in the third degree and expels worms and proglottides (*habb al-qar'* حب القرع, taenia).

172. Birank Kâbilî برنك كابلى (Embelia Ribes Burm.).

(Lecl. No. 259).

Ibn Sînâ : It is Sindian [1] or Indian. It is of two kinds, one small and not variegated [2] and the other big and variegated. The smaller are the better kind. It purges phlegm and (expels) intestinal worms and proglottides (taenia).

Author : I think it is the same as the last mentioned *birang*.

COMMENTARY

Gh.'s last assertion is correct : *birang* برنج is only an Arabic transformation of the Persian *birank*. The identity of this drug was fixed, not by Leclerc, but by Dymock who consecrates to it a long article (II, 349 foll.). It is the fruit of *Embelia Ribes Burm.* (Myrsineae), a plant growing in all parts of India. The dried berry is globular, about 4 m/m in diameter, reddish-brown and marked with dark spots (Dymock II, 350) and has a somewhat astringent and aromatic taste. Its name in Sanscrit is *vidanga* and is mentioned by the ancient Indian surgeon, Sushruta as that of an anthelmintic (Dymock). From this name was derived *viranga, biranga* and *bahirang* in Hindustânî and Bengali, and *birank, biranj* in Persian.

Ibn Sînâ, the Persian, was better informed than the Spaniard Ibn Wâfid, when he wrote that the drug came from India.

We learn from this paragraph that the drug was imported into the West by way of Kâbul (now Afghanistân) and that there were several kinds of it ; the big one may have been the berry of *Embelia robusta Roxb.*

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[1] Sind is the lower Indus Valley Province.

[2] In the texts of T. ahd G., *mushaqqaq* مشقق (split up) instead of *mufannan* مفنن (variegated) ; this last and correct reading is found in Ibn Sînâ's *Qânûn* I, 272, I, 27.

COMMENTARY

This is the common polypody (*Polypodium vulgare L.*), a well-known fern, already mentioned by THEOPHRASTUS. The "Arabic" name *basbâyîg* بسبايج is in reality Persian *bas-pâyak* بس پايك, *i.e.* "having many feet," literal translation of Greek πολυπόδιον (*polypódion*). The habitat of the plant is in the whole of Europe's moderate zone, in Central Asia, etc. Its root, about twenty centimetres long, is used medicinally (*Rhizoma Polypodii*), and is still given for intestinal affections. It contains tannin and a kind of glycyrrhizin (DRAGEND, 57, after Guignet).

IB.'S article on this drug is much longer than Gh.'s, and is full of quotations from old Arabic and Persian authors. IDRÎSÎ (p. 61) quotes, besides DIOSCURIDES, BÂDÎGHÛRAS and AR-RÂZÎ. DÂWÛD (I, 147) recommends polypody as a remedy for cough and asthma.

SYNONYMS: Gr.: πολυπόδιον (*polypódion*); Lat.: same name, filicula (Medieval); Syriac: *sekâ reglê*, (*i.e.* "many footed," *polypodion*); Ar.: *basbâyig* بسبايج, *basfâyig* بسفايج, *kathîr al-argul* كثير الأرجل ("many footed." *polypodion*), *adrâs al-kalb* اضراس الكلب ("dog's teeth"), *shagar 'Alî* شجر علي ("Alî's tree," MAIM. No. 64), *thâqib al-hagar* ثاقب الحجر ("perforating the stone") (NAFICY 466); for other names *see* ISSA (p. 9); Pers.: same names and *baspâya* بسپايه, *baspâyak* بسپايك (VULLERS 238), *shutur 'Alî* شتر علي ("Alî's camel," MAIM. 64); Turk.: *basfâyig* بسفايج (AVNI 487), *akhrâs el-kelb* اخراس الكلب (1), *yilân nabât* يلان نبات ("serpent's plant," SAMY 1727); Eng.: common polypody; Fr.: polypode commun, polypode de chêne, félicale, fougère douce; Germ.: Tüpfelfarn, Süssfarn, Engelsüss.

171. Birang برنج, (Embelia Rives Burm.).

(LECL. No. 259, *Borindj*).

IBN WÂFID (2): Small grains about the size of the *habb almâsh* حب الماش, (grains of *Phaseolus Mungo L.*), spotted with

(1) Probably mutilated from *adrâs al-kalb* أضراس الكلب.

(2) *See Introduction* No. 40 (p. 23).

It seems that it was not known to the Arabs, and IB. was probably not able to identify DIOSCURIDES' description. As to the names of other kinds of scabious, *see* LOEW I, 586 foll. According to DRAGEND. (646), *Scabiosa succisa L.* (*Succisa pratensis Mönch*), called *Morsus Diaboli* could be the *pyknomon*.

170. Basbâyig بسبايج , *Polypody* (*Polypodium vulgare L.*) (LECL. No. 280).

DIOSC. IV (186): πολυπόδιον (*polypódion*). It grows on moss-grown rocks and on the trunks of old oak-trees and on the tree-moss (*ushna* أشنة). It is about a span high and resembles the plant called πτέρις (*ptéris*), the male fern (*as-sarakhs* السرخس (1). On it there is some down which is long but not as fine as that of *ptéris*. The root has branches like the fish (marine animal) called polyp (*kathîr al-argul* كثير الأرجل). It is as thick as a little finger. If rubbed, the colour of its interior appears to be green. Its flavour is astringent and inclined to sweetness; this is the best (kind).

GALEN VIII (XII, 107) : It is dessicative without pungency.

DIOSC. (2) : It is given cooked with fowls, fish, white-beetroot (*salq* سلق) or Jew's mallow (*mulûkhiyya* ملوخية, *Corchorus olitorius L.*) (3). It purges black bile and phlegm without provoking colic or causing any harm.

IBN MÂSAWAIH : It is also cooked with barley-water. The dose given is from one to five drachms, boiled or strained.

AL-MAGÛSI (4) : Or finely pounded with sugar.

IBN SARÂBIYÛN (5): Or with barley-water. It purges the tenacious chyme from the stomach and the articulations, but causes nausea.

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(1) This phrase and the following are in disorder in both MSS. (T. and G.).

(2) The name is missing from T. and G.

(3) In Greek μολόχη (*molôkhê*).

(4) *See Introduction* No. 27 (p. 17).

(5) *See Introduction* No. 18 (p. 13).

SYNONYMS: Gr.: πολύγαλον (*polýgalon*); Lat.: polygala (PLINY XXVII); Ar.: *bûlûghâlun* بولوغالن, *hashîshat al-halîb* حشيشة الحليب ("milk herb"), a term to be found only in Persian dictionaries; Pers.: same names and *shîr giâh* شيركياه ("milk herb"; Turk.: same names and *süd otu* سود اوتى ("milk herb," AVNI 485), *süt otu* سوت اوتى (SAMY); Eng.: milk-wort; Fr.: polygala (commune, amère), herbe au lait, laitier; Germ.: Kreuzblume, Kreuzwurz, Milchwurz.

169. Bûqnûqûmun بوقنوقومن, Uncertain Kind of Scabious, (*Scabiosa ambrosioides Sibth* ?).

(LECL. missing) [1].

DIOSC. IV (174): It is a plant, the leaves of which are like those of rocket (*girgîr* جرجير), but thicker and of a sharp taste. Its stem is quadrangular, its flower like that of sweet-basil (*bâdhrûg* باذروج) and its fruit like the seeds of leek. Its root is black with some yellowness. It is round like a small apple, and its smell is earthy. It grows in rocky places.

GALEN VIII (XII, 110): In its root, fruit and leaves are resolvent and attractive properties to the secundine. The fruits are more powerful than the leaves, but both are still more powerful than the root. It purges the yellow bile. One drachm of its fruit, drunk, provokes evil dreams [2].

COMMENTARY

The πυκνόκομον (*pyknókomon*) of DIOSCURIDES, PLINY and GALEN has been recognised as a kind of scabious. Fraas prefers the dipsacea *Scabiosa ambrosioides Sibth.* (*Cephalaria ambrosioides R. et Sch.*), on account of its bulbous root and its rocket-like leaves, a plant which is not rare in Greece (BERENDES 467).

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[1] It is also missing from *Issa's* Dictionary of Plant-names.

[2] This last phrase is missing in the editions of GALEN's *De Simplicium Medic. Temp. ac Facult.*

The "Arabic" name comes from a Persian origin: *parsiyâwushân* پرسیاوشان (1); DÂWÛD (I, 138) takes it for a Greek name and explains its meaning as "chest remedy."

SYNONYMS: Gr. αδίαντον (*adíanton*, THEOPHR.), πολύτριχον (*polýtrichon*, DIOSC.); Lat.: adiantus, callitrichon (PLINY XXII); Ar.: *barsiyâwshân* برسیاوشان, *sha'ar al-gabbâr* شعر الجبار ("giant's hair"), *sha'r al-ginn* شعر الجن ("demon's hair"), *sha'r al-ard* شعر الأرض ("earth's hair"), *sha'r al-khanâzîr* شعر الخنازير ("pig's hair," all by IB.), *lihyat al-himâr* لحية الحمار ("ass's beard"), *kuzbarat al-bîr* كزبرة البير ("coriander of the well"); other names refer to the black twigs, as, *e.g.* *al-wasîf* الوصيف ("the negro slave," IB.); *see* ISSA, p. 6, and LOEW I, 11–12; Pers.: same names and *parsiyâwushân* پرسیاوشان; Turk.: *kuzbarat al-bîr* كزبرة البير, *baldîr-i-qara* بالديرى قره ("black capillaire," AVNI, pp. 14 and 99); Eng.: maidenhair, Venus' hair, ladies'hair, capillaire; Fr.: adiante, cheveux de Vénus, capillaire de Montpellier; Germ.: Frauenhaar (krautfarn), Venushaar (krempelfarn).

168. Bûlûghâlun بولوغالن, *Milk-wort* (Polygala vulgaris L.). (LECL. No. 377).

DIOSC. IV (139): A plant about a span high; its leaves are like lentil leaves and astringent. It is said that when drunk (in infusion) it acts as a galactagogue.

GALEN VIII (XII, 105–6): If it really increases the flow of milk, as it is said, it must be of a moderate heating and moistening power.

COMMENTARY

Modern botanists declare this plant to be one of the kinds of *Polygala*: *P. vulgaris L.*, *P. venulosa Sibth.*, common in Greece, or *P. amara L.*, common in Italy. Not long ago, it was a medicinal drug (*Herba et Radix Polygalae*). The herb contains a bitter substance, polygalamarin (LUERSSEN II, 721).

(1) I.e. "hair of (the hero) Siyâwush," father of king Cyrus.

167. Barsiyâwshân برسياوشان, *Maidenhair* (Adiantum Capillus Veneris L.).

(Lecl. No. 256).

It is "the giant's hair" (*sha'r al-gabbâr* شعر الجبار) and "the coriander of the well" (*kuzbarat al-bîr* كزبرة البير).

Diosc. IV (134) : ἀδίαντον (*adíanton*) and sometimes called πολύτριχον (*polýtrichon*). Its leaves are like those of the coriander with dentate edges; its twigs are black, hard, thin and about a span long; it has no stem, neither flower nor fruit. Its root (*fol.* 23 *r*) is of no use whatever. It grows in shady places, on the walls of damp caverns and near the lakes formed by natural sources [1].

Galen VI (XI, 814) : It is drying, refining and resolvent in a moderate degree, intermediate between hot and cold. It helps the expectoration of tenacious mucus from chest and lung.

Diosc. : Its decoction is useful against asthma and spleen-ache, is lithotriptic and confines the bowels.

Ar-Râzî : Its property is transient.

Ibn Mâsawaih : Six drachms of it purge the yellow bile from the stomach.

COMMENTARY

The plant in question is the well-known pteridea (fern) *Adiantum Capillus Veneris L.*; its habitat is in many tropical lands, but it grows in the Alps and even in the Southern part of the British Islands. Its beautiful leaves of sweetish-bitter flavour are still, in some lands, used as an official drug (*Herba s. Folia* and *Sirupus Capillorum Veneris*) (Luerssen, I, 559) against cough and asthma.

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(1) This passage is missing in Dioscurides' original text, and likewise from Hunain's translation of it; it must be an interpolation by an Arab scholar.

Synonyms : Gr. : πετασῖτις (*petasîtis*) ; Lat. (Medieval) : tussilago petasites ; Ar. : transliteration of *petasitis*, and *hashîshat al-qar'ân* حشيشة القرعان (Syria, Berggr. 868) ; Pers. : *sunnj* سنج (Steingass ; also in use for red jujube ; Turk. : *öksürük otu* اوكسورك اوتى " cough herb "), *dewe tabâni* دوه طبانى (" camel's foot print ") ; Eng. : butter bur. ; Fr. : pétasite, herbe aux teigneux ; Germ. : grossblättriger Huflattich, Pestwurz (*i.e.* " plague root) ; Span. : yerba de los tinosos, sombrerera (" broad-brimmed hat-plant ").

166. Bûniyûn بونيون (Bunium pumilum Sibth. ?).

(Lecl. No. 376).

Diosc. IV (123) : It is also called ἄκτιον (*áktion*) ; it is a plant with a longish quadrangular stem of the thickness of a finger. Its leaves are like those of celery (*karafs* كرفس) except that they are much more tender, like coriander leaves. Their flowers are like those of dill (aneth, *shabath* شبث), and its seeds are of fragrant smell and smaller than those of henbane (*bang* بنج).

Galen VI (XI, 852) : It is hot, diuretic and emmenagogue.

Diosc. : Its seeds are heating, diuretic, expel the placenta and are healthy for affections of the spleen, and bladder.

As to ψευδοβούνιον (*pseudobûnion, i.e.* false *bûnion*), it is a θάμνος (*thâmnos*, shrub) of about three spans and grows in the Island of Crete ; its leaves are like the leaves of βούνιον (*bûnion*).

Galen VI : *Pseudobûnion* is heating in the same degree as *bûnion*.

COMMENTARY

The identity of βούνιον (*bûnion*) has not yet been fixed. Fraas thought it to be the umbellifera *Bunium pumilum Sibth*, but Dioscurides' description of the flower does not agree with it.

However, ψευδοβούνιον (*pseudobûnion*) is identified by Griesebach (Berendes, p. 434) with *Pimpinella dioica Spr.* a kind of pimpernel which is frequent in the mountains of the Balkan Peninsula. This identification has not convinced all authors.

gawtharân جوثران (Gh.), *labîda baidâ'* لبيدة بيضاء (NAFICY I, 200 a); Pers.: *bûsîr* بوصير, *gûsh-i-khars* گوش خرس, *mâhî zahra* ماهى زهره (*i.e.* "fish poison") (all the three VULLERS I, p. 278), *dum-i-gaw* دم گاو (SCHLIMMER, p. 559), *labîda-i-safîd* لبيده سفيد (NAFICY), *bang-i-sapîd* بنك سپيد (HANJÉRI I, 280); Turk.: *sîghîr quyrûghi* صيغير قويروغى ("ox-tail,", AVNI, SAMY), *rabî'a chicheyi* ربيعه چيچكى (NAFICY, SAMY), *âq bân* اق بان (HANJÉRI); Eng.: mullein (white, black, yellow), cow's lungwort, high taper; Fr.: molène, bouillon (blanc, noir, jaune), bonhomme, cierge de Notre-Dame, fleur de grand chandelier; Germ.: Königskerze, Wollkraut (the flower).

165. Bâtâsîtîs باطاسيطيس, *Butter Bur* (Petasites officinalis Mönch.).

(LECL. No. 231).

DIOSC. IV (107): It is a shoot about one cubit high or more, in the thickness of a thumb, and with leaves like large wings. At the summit of the shoot there is something sticky, as if it were a mushroom (*futra* فطره). Its leaves, if crushed and used as compresses, are useful for malignant ulcers.

GALEN VIII (XII, 98 f.): It is dessicative in the third degree.

COMMENTARY

This plant is the composita *Petasites officinalis Mönch.*, well-known in the forests of Europe (1). The end of the first phrase of the Arabic text is a mistranslation from DIOSC. who compares the leaves and not the umbel of the plant to a mushroom. He does not speak of "something sticky." The leaves were formerly in use as cataplasm for skin diseases, ulcers and bubos, wherefrom are derived the French and German names of the plant, while the Italians used it more for internal diseases, especially cough (*tussilagine maggiore*).

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(1) The greek name is derived from the likeness of the very large leaves with a πέτασος (*petasos*), the broad-brimmed rain-hat worn by sheppeards and hunters. The plant is a near relative of coltsfoot (*Tussilago Farfara*) *vide* supra No. 149.

wild kind is a different species, the labiata *Phlomis fruticosa L.* (Jerusalem-sage), and the three other *phlomis* cannot exactly be determined. Botanists thought of *Phlomis samia L.*, *Phlomis lunaria Sibth.*, *Phlomis Lychnitis* and *Phlomis limnensis*. The mullein, *Verbascum Thapsus L.*, is a beautiful shrub. Its roots are used as a febrifuge in India (DYMOCK III, p. 2), and in Europe the yellow flowers have, until to-day, a certain reputation as an anti-spasmodic and sedative to cough. SCHWEINFURTH (p. 47) found the flowers in the Cairo drug-bazaars under the name of *bûsîr* بوصير.

IBN SÎNÂ (I, 283), IBN GAZLA and BÎRÛNÎ call the plant *bûsîr*; IDRÎSÎ (p. 58) spells it correctly *bûsîn*, but thinks it to be a Persian name and does not recognise the identity of the plant with the *phlomos* of DIOSCURIDES. He gives a short but correct description of the shrub.

DÂWÛD's paragraph (I, 171) is so interesting that we give a translation of its first lines: "*Bûsîrâ* بوصيرا, in Greek *phlomos*, *i.e.* "wolf's ear" is also called *muskir al-hût* مسكرالحوت ("intoxicant of the fish") because its bark is kneaded with flour and cast into the water; the fishes then float on the surface quite insensible." After giving the description of the different kinds of mullein, DÂWÛD mentions that the leaves of the "male" kind are pear-shaped, that the "female" leaves protect figs from becoming rotten, that the "male" catch cockroaches (*sarâsîr* صراصير) and that all kinds stop haemorrhages and heal wounds. The narcotic action of mullein on fish appears to have been known long ago (DYMOCK III, p. 1). The active poisons in the plant are several kinds of saponine, very soluble in water.

SYNONYMS: Gr.: φλόμος (*phlómos*), φλομίς (*phlomís*, DIOSC.), λυχνῖτις (*lychnîtis*), θρυαλλίς (*thryallís*, DIOSC.); Lat.: phlomos, phlomis, verbascum (PLINY XXV); Ar.: *bûsîn* بوصين (Gh., IDRÎSÎ), *bûsîr* بوصير (all the other Arab and Persian authors), *bûsîra* بوصيرا (DÂWÛD), *muslih al-anzâr* مصلح الانظار (ISSA, 187, 12), *âdhân ad-dubb* آذان الدب, *muskir al-hût* مسكرالحوت, *saikarân al-hût* سيكران الحوت,

from the white one by its broader leaves; otherwise it resembles it in all its other characteristics. There is another kind of this plant called wild φλομίς (*phlomís*), with long twigs reaching by their length the branches of trees, with leaves like ἐλελίσφακος (*élelísphakos*, sage, *Salvia officinalis L.*). The branches carry round bodies like gloves, as does πράσιον (*prásion*, horehound, *Marrubîum vulgare L.*). Its flower is golden-yellow.

And there is still a third species of the plant called φλομίς (*phlomís*) of which there are three kinds; two are downy and stick to the earth (soil), with round leaves. The third kind is called λυχνῖτις (*lychnîtis*) or "that of the lamp," and it is also called θρυαλλίς (*thryallís*) or "the lamp-wick." It has three, four or more leaves which are hard and covered with down, and contain a moisture which sticks to the hand; it is used for making lamp-wicks.

Galen VIII (XII, 150): The root of the two first kinds has an astringent flavour. The faculty of all the kinds is drying, moderately detersive and resolvent. The kind with golden flowers dyes the hair red (fair).

COMMENTARY

The name of this plant is everywhere spelt *bûsîr* بوصير, and its origin is not explained anywhere. It is a Syriac name — possibly derived originally from Persian — and is recorded by Loew (*Aramaeische Pflanzennamen*, Leipzig, 1881, No. 41) and now by Brockelmann (*Lexicon Syriacum*, p. 63 *a*). It is *bûsînâ* בוצינא and the transcription *bûsîn* by Gh. shows the excellence of his literary precision; Idrîsî also spells it *bûsîn*. The description furnished by Dioscurides refers partly to several plants of the species *Verbascum* (*Scrophulariaceae*) and *Phlomis* (Labiatae). According to Leclerc and Berendes (p. 426) the determinations given by Sibthorp and Fraas are the most likely. The white female *phlomos* corresponds to *Verbascum Thapsus L.* (mullein). The black *phlomos* (φλόμος), known also to Theophr., is considered to be *Verbascum sinuatum L.* (black mullein). The

According to DÂWÛD, the whitish and fresh seeds are the best for medical use.

SYNONYMS: Gr.: ψύλλιον (*psýllion*); for other names *see* DIOSC. above, moreover ψυλλερίς (*psyllerís*, DIOSC.); Lat.: same names; Ar.: *bizr qatûna* بزر قطونا, *al-barghûthi* البرغوثى, *hashîshat al-barghûth* حشيشة البرغوث, *shabîh al-barâghîth* شبيه البراغيث, *habb al-barâghîth* حب البراغيث, for other names *see* ISSA (p. 142, 8); Pers.: *asfiyûs* أسفيوس, *asfiyûsh* اسفيوش, *aspîyûsh* اسبيوش, *asp-ghûl* اسبغول (VULLERS I, 90), *khar-ghûl* خرغول (VULLERS I 677), *khar-gûschk* خركوشك (VULLERS I, 681), *asfarza* اسفرزه (SCHLIMMER, p. 464); Turk.: *piré otu* پيره اوتى (HANDJÉRI), *qârni yârîq* قارنى يارىق (AVNI) (1); Eng.: flea-wort; flea-seeds; Fr.: psyllium, herbe aux puces pucière, pulciaire, plantain des sables, graine de puces; Germ. Flohsamen-Wegerich.

164. Bûsîn بوصين (2), *Mullein* (Verbascum Thapsus L.) and others.

(LECL. No. 375, *bûsîr* بوصير).

It is *al-gawtharân* الجوثران, and in Berber *barbâshka* برباشكه (3).

DIOSC. IV (103): φλόμος (*phlómos*) is of two kinds, white and black. The white is a female plant. Its leaves are like those of cabbage, except that they are covered with down and are broader. The length of its stalk is about a cubit or more. It is white and downy; its flower is yellowish-white, and its seeds are black. Its root is long, astringent and as thick as a finger. It grows in deserts. The male plant has likewise white leaves which tend to be long; but both leaves and stalk are thinner than those of the female plant. The black-leaved kind differs

(1) The meaning of the Greek word ψύλλα (*psýlla*), the Arabic *barghûth* and the Turkish *piré* پيره is "flea."

(2) In both MSS. *bûsîn* بوصين, clearly written.

(3) In both MMS. *barnâshka* برناشكه; it is *Verbasca*, Spanish *verbasco* or Latin-*verbascum*, erroneously taken by BARHEBRAEUS to be Berber; the Berber name as transmitted by IB, is *âqanqan* آقنقن.

GALEN VIII (XII, 158): It is cold in the second degree, of moderate moisture and dryness.

DIOSC: It is of a cooling faculty. If used as compresses with vinegar, attar of roses and water, it becomes beneficial in arthritis.

ANOTHER AUTHOR (1): The best kind is the large and full which does not float in water. If cut to pieces it is astringent and confining to the bowels and useful for dysentery (*sahag* سحج). The powder must be used with care, because too big doses are fatal.

COMMENTARY

This is *Plantago Psyllium L.*, the flea-wort, a plant which is common in South Europe, North Africa and Asia. Its seeds contain a kind of mucus and are much in use in the Orient for inflammatory affections especially of the eyes. In Europe they are a medicinal drug for diarrhoea under the name of *Semina Psyllii.*

The name *qatûna* قطونا is of Syriac origin, and is always used with the epithet *bizr* or *bazr* بزر, *i.e.* " seeds." The Persian name *asbiyûs* اسبيوس or *asfiyûs* اسفيوس is, according to VULLERS (I, 90 b), a mutilation from *asp-gûsh* أسب كوش, *i.e.* " horse-ear."

Nearly all the Arabic authors repeat the description of DIOSCURIDES. DÂWÛD (I, 144), however, describes three kinds of flea-wort: (1) a big and medicinally excellent kind in Syria; (2) a red kind, a little less efficacious, growing in Lower Egypt and called by the Egyptians *al-burullusiyya* البرلسية, from lake Burullus near the Mediterranean coast; (3) a black kind which is less good, brought from Upper Egypt and therefore called *as-sa'îdî* الصعيدى. We suppose that the second kind may be *Plantago crypsioides* or *arenaria*, the third *Plantago ramosa Ascherson*, the seeds of which are still sold in the Cairo drug bazaars (2).

(1) According to IB. this author is IBN MÂSAWAIH.

(2) This has been stated by FIGARI and SCHWEINFURTH., DUCROS found only Plantago Psyllium.

drug is offered in a very popular aphrodisiac electuary called *manzûl* منزول (formerly *ma'gûn* معجون).

In the European pharmacopoeas the different parts of hyoscyamus are still official preparations (*Folia, Semen, Tinctura, Extractum, Oleum, Unguentum, Emplastrum, Emulsio Hyoscyami*), and there even exist anti-asthmatic cigarettes containing henbane-extract, in the Belgian Pharmacopoea (LUERSSEN II, 986-987).

SYNONYMS: Gr.: ὑοσκύαμος (*hyoskýamos*); Lat.: hyoscyamus; Ar.: *bang* بنج, *saikarân*, *sêkarân*, *sîkrân* سيكران, *shûkrân* شوكران(1), *mussais* مسيس (Syria and Palestine, BERGGR.), *simm el-fâr* سم الفار (Palestine, Post), *qullêt er-ra'î* قليط الراعى (Palestine), *abû merjûf* ابو مرجوف (Algeria, SCHWEINF); for other names *see* ISSA, p. 96,5; Pers.: *bang* بنك, *benj* بنج *sukhar* سخر (NAFICY)(2); Turk.: *benj* بنج, *bân otu* بان اوتى (HANJÉRI, AVNI, SAMY); Eng.: henbane, hyoscyamus (black, white, etc.); Fr.: jusquiame, potelée, mort aux poules, etc.; Germ.: Bilsenkraut, Hühnertod, Zankteufel.

Egyptian [hieroglyphs]; *ȝnk* Coptic ⲉⲛⲕ̄, ⲉⲛⲟⲩⲕ.

163. Bizr Qatûnâ بزر قطونا *Fleaseeds* (Plantago Psyllium L.).

(Lecl. No. 278).

It (the plant, flea-wort) is called in Persian *asfiyûs* اسفيوس.

DIOSC. IV (69): ψύλλιον (*psýllion*). It is also called κυνοκέφαλον (*kynoképhalon*). The Sicilians call it κρυστάλλιον (*krystállion*), and others κυνομύια (*kynomýia*). It is a plant with leaves like those of κορωνόπους (*korônópûs*) (3); they are covered with down. Its twigs are about a span long, and the origin of the umbel is from the centre of the plant. On its upper end are two or three capitula, round, containing seeds like fleas, black and hard. They are the ones used (in medicine). It (the plant) grows in (*fol.* 22 *v.*) cultivated land.

(1) This name is also given to *Conium maculatum* (hemlock).

(2) Doubtless derived from Aramaic.

(3) This is supposed to be the leguminosa *Lotus ornithopodioides L.*; but we think it is more likely to be *Plantago Coronopus L.* (Known in Lower Egypt under the name of *udheina* أذينه).

have been found, although six kinds of hyoscyamus grow in the Egyptian deserts (1). The supposed Ancient Egyptian names *spti* and *safti* (Tschirch I, 468) are quite uncertain. The active toxic principles of *Hyoscyamus* are the alkaloids hyoscyamin hyoscin and scopolamin (or atropin).

The name *bang* is derived (though Persian *bank* بنك) from Sanscrit *bhanga* which designates another toxic drug, the Indian hemp (*Cannabis sativa L. var. Indica*). In modern Egyptian Arabic the word *bing* بنج is applied to every kind of narcotic, *bannaga* بنج for "narcotise" and *tabnîg* تبنيج for "narcosis." *Sêkarân* سيكران is an old Semitic word for intoxicating, inebriant drugs. Other kinds of hyoscyamus and its varieties have similar names (*sîkrân* سيكران, *shûkrân* شوكران, etc.).

Most of the Arabic and Persian authors simply repeat *Dioscurides'* description of the plant, but add many indications for the medicinal use of the drug.

Bîrûnî first gives the Syriac name for the seeds, *zer'é shakhrônâ* זרעי שכרונא, the Indian *hâtûrâ* هاتورا (2), and then quotes many authors of Persian and Central Asiatic origin. Following that, the text is in disorder in the Brussa MS.

Dâwûd (I, 166) gives the Berber names *âfanqît* افنقيط and *asqîrâs* اسقيراس (?). His description of the plant is independant of that of Dioscurides. He thinks that all kinds are nearly alike in their toxic action. The annual and biennial varieties of henbane were unknown to the Arabic physicians.

Not long ago the leaves were sold in the drug bazaars of Cairo (Ducros p. 24). The flowers and seeds (called *birzebing* instead of *bizr bing* بزر بنج) were official drugs, but they are sold now only by licensed pharmacologists. The seeds of *Hyoscyamus L.* which is frequent in Egyptian deserts are still to-day used by criminals for narcotising and robbing their victims. The

(1) See the very detailed and learned publications of Ibrahîm Ragab Fahmy, *Hyoscyamus muticus and Hyosc. albus var. Desertorum* in Report of the Pharmaceutical Soc. of Egypt II (Cairo, 1931), pp. 1-35.

(2) Probably a mutilation of *tâtûra* تاتورة with which al-Fazârî confused the drug.

The other has apple-coloured blossoms and leaves and flowers softer than those of the first kind; it has reddish seeds like those of ἐρύσιμον (*erýsimon*, hedge-mustard, *Sisymbrium officinale Scop.*). These two kinds are bad, causing mania and lethargy. The third kind, which is soft to the touch, has an exudation which sticks to the hand and is covered with a growth between dust and down. It has white flowers and seeds. It grows near trees and in ruined places. If this kind is not available one has to use that with red seeds. The black kind is to be rejected on account of its dangers. The juice of this plant is better and more powerfully sedative than its gum.

GALEN VIII (XII, 147 foll.): The kind with black seeds and that with the red ones are deadly and cause madness; the white is used in medicine; it is cold in the third degree.

ANOTHER AUTHOR (1): The white henbane enters among the group of remedies that fatten, because it thickens the blood. If its smoke, when burnt, is conducted through a tube to an aching tooth, it soothes the pain.

COMMENTARY

The plant is the solanacea *Hyoscyamus* (henbane) and the three kinds described by Dioscurides agree with *H. niger L.*, *H. aureus L.* and *H. albus L.* Instead of the "apple coloured" (yellow) *H. aureus*, Sprengel proposes *H. reticulatus L.* The *saikarân* mentioned by Gh. is a desert variety of *H. albus* (Acherson) or *H. muticus L.* (Egyptian henbane) which is frequent in the deserts of North Africa, Egypt, Persia and India. This latter plant, particularly rich in alkaloids (2), causing severe intoxication, (maniacal attacks followed by coma), was known to the Ancient Greeks. It is unexplainable that there do not exist any documents from Ancient Egypt referring to henbane, and no remains of it

(1) IB. says that this author is IBN SÎNÂ, but this is a mistake.

(2) According to I.R. FAHMY (*see* below) it contains about 0·77 per cent, mostly hyoscyamine (as compared with 0.08 per cent maximum in *Hyoscyamus niger* !).

It seems that the introduction of the papyrus plant into Sicily was due to the Arabs during their domination of the Island (Xth cent. A.D.) (*Mechithar*, Seidel, p. 157). DÂWÛD (I, 138) mentions the presence of papyrus bushes in his time (XVth cent. A.D.) in Syria. He erroneously gives the name of *halfâ*, حلفاء instead of *hafâ'* حفاء.

SYNONYMS (for the plant):

Anc. Egypt.: [hieroglyphs] *ṯwfy*; Copt.: ϫⲟⲟⲩϥ *djoouf*; Gr.: πάπυρος (*pâpyros*); Lat.: papyrum (PLINY XIII); Ar.: *bardî, burdî* بردى, *burdiyya* بردية, *hafâ'* حفاء, *hafâra* حفارة, *lû'î* لوئى (ISSA), *hasîr* حصير, *khûs* خوص (Spain, IBN GULGUL), *fâfîr* فافير (Egypt Gh.), *ṭâbîr* طابير (Syria, DÂWÛD), *kawlân* كولان (Syria) (1); Pers. and Turk.: same names, especially *burdî*; Eng.: (Nile) papyrus; Fr.: papyrus, souchet à papier, jonc du Nil; Germ.: Papyrusstaude.

162. Bang بنج, HENBANE (Hyoscyamus niger, albus, aureus L.).

(LECL. No. 356).

It is known in our land (Spain) under the name of *saikarân* سيكران, but *saikarân* is in reality something different.

DIOSC. IV (68): ὑοσκύαμος (*hyoskýamos*) is a θάμνος (*thámnos*, shrub) with thick twigs, long broad leaves, dentated edges and of blackish colour covered with down; on the twigs grow fruits shaped like pomegranate-blossoms (*gulnâr* جلنار), distributed one after another on the whole length of the twig and covered with something like a lupin grain (*turmus* ترمس) (2). This fruit is full of seeds resembling poppy-seeds. It is of three kinds: one with purple flowers, leaves like σμῖλαξ (*smîlax*, rough bindweed) black seeds and a flower like the pomegranate-blossom, but thorny.

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(1) *Kawlân* is the general name for rush; *see* above, art. No. 67 (*asal* أسل), p. 162.

(2) The fruit is a small, two-celled capsule with a kind of lid on its top; it is this which Gh. compares to a lupin-grain. The modern botanical term for this kind of pod is

bushes with two broken stalks of the plant with the buds at the sides a quite characteristic aspect of the plant. In later periods the name of papyrus was [hieroglyphs] *twfy*, Coptic ϫⲟⲟⲩϥ *djoouf*, which passed into Hebrew as *suf* סוף. The plant was also at home in Palestine, in the Jordan Valley and on the banks of Lake Tiberias. The very early use of papyrus for the manufacture of paper, a very precious export of Egypt during the old periods and down to the Xth cent. A.D. is proved by numerous findings of papyrus sheets and rolls dating from the first Egyptian dynasties (after 3000 A.D.). The use of the stalks as a food is equally very old. It is corroborated by the sayings of Herodotus, Theophrastus, Diodorus and Pliny. Recently, L. KEIMER (1) was able to prove that the asparagus-like bundles represented on Egyptian monuments among the offerings, are the lower ends of papyrus stalks. The root was chewed and sucked as is done with sugar-cane to-day. The medicinal use seems to have been restrained to burnt papyrus-sheets, which had the action of pulverised charcoal and were used for certain eye diseases.

For the names of papyrus in Semitic languages *see* LOEW I, pp. 563–70 and 575.

Among the Arab writers Gh. gives his opinion of the male and the female papyrus plants. He must have seen the plant in Spanish gardens. The second kind of rush which he describes, is not a *Cyperus*. IDRÎSÎ (p. 45–46) gives a good description of the plant, but does not mention its occurrence in Sicily, where he lived at the court of the Norman kings. On the contrary, ABU'L-'ABBÂS AN-NABÂTÎ, IBN AL-BAITÂR's teacher, tells us at a later time (LECL. I, p. 217) that there was a basin with papyrus plants opposite the Royal palace at Palermo. He gives a detailed description of the plant and of the Ancient Egyptian procedure of manufacturing writing paper from it.

(1) *Papyrusstengel als Genussmittel.* Journ. of the Soc. of Oriental Research Vol XI (1927) pp. 142–5.

cotton wool, called *at-tût* الطوط. Some people believe that the papyrus (*fâfîr* فافير) is different from this *bardî* which is known in our land, and that it is only one of its kinds. They say that *fâfîr* has a thicker stem than *bardî* and leaves (*khûs* خوص) like those of *bardî*. Its stem grows twisted and carries leaves like the down of the pine, except that they are less. The bark of its stem is strong, and hard halters and strong ropes are made from it. People use this bark for the transportation of soap and other wares. Writing paper, however, is prepared from *fâfîr*.

Diosc. (I, 86) : πάπυρος (*pápyros*), *i.e. al-bardî* is a well-known plant; writing-paper is made from it.

Galen VIII [1] (XII, 94) : A plant which is not used raw in medicine, but which, if macerated in vinegar and then burnt, heals wounds.

Diosc. : Its root is slightly nutritious. The Egyptians chew it, swallow the juice and spit out the rest. Its ashes check malignant ulcers from spreading in the mouth or elsewhere.

Another Author : Patients suffering from enlarged spleen are fed on its raw root with evident good result.

COMMENTARY

The cyperacea papyrus (*Cyperus Papyrus L.*) is one of the oldest plants used in the history of human civilisation. It is a native of the central African rivers. In early times it was frequent on the banks of the Nile in Northern Egypt, and its picture was the symbol of the Lower Country. Keimer [2] proposed that the plants represented on a proto-historic Egyptian slate palette (circa 4500 B.C.) were papyrus bushes. The hieroglyphic sign of papyrus 𓇅 *wḏ* (*i.e.* "green") represents some fully grown

(1) In the text erroneously Galen VI; Ibn al-Baitâr copied this error from *Ghâfiqî*.

(2) *Bemerkungen zur Schiefertafel von Hierakonpolis*. In *Aegyptus* (Milano, 1926), pp. 169–188.

IDRÎSÎ (p. 58) and DÂWÛD (I, 166) repeat DIOSC.'s sayings, but IDRÎSÎ adds some names in foreign languages, *e.g.* Syriac *pandâfîlâ* and "Frankish" (Spanish ?) *quinquefolia* جنك فيلى. He then gives a long chapter on the medical properties of the root.

SYNONYMS : Gr. : πεντάφυλλον (*pentaphyllon*), πενταπετές (*pentapetés*, THEOPHR., DIOSC., GALEN) and five other names (*vide suprâ*); Lat. : quinquefolium (PLINY XXV), quinquefolia herba (Scribonius Largus); Ar.: *kaff Maryam* كف مريم (Gh., IDRÎSÎ), *zughlûl* زغلول (Ascherson, SCHWEINF.); *tût el-ard* توت الأرض (DOZY II, 197), *dhû khamsat-al-awrâq* or *al-asâbi'* or *al-atbâq* ذوخمسة الاوراق أو الاصابع أو الاطباق (translated from Greek); Pers. : *panj angusht* پنج انگشت (1) (NAFICY II, 566 *b*), *sagsanbûyâ* سكسنبويه (VULLERS I, 311 *a*), *sangsapoya* سنكسپويه (Noeldeke, LOEW III, 191); Turk. : *besh parmaq* بش پرمق (HANDJÉRI), *besh parmaq otu* بش پرمق اوتى AVNI, SAMY); Eng. : cinquefoil, five-finger, five-leaved grass; Fr.: quintefeuille, potentille rampante, herbe à cinq feuilles; Germ.: kriechendes Fünffingerkraut, Fingerkraut.

161. Bardî بردى, *Papyrus* (Cyperus Papyrus L).

(LECL. No. 257).

IBN GULGUL : It is *al-khûs* الخوص, and the Egyptians know it under the name of papyrus (*fâfîr* فافير). It is a plant which grows in water. It has a long greenish-white stem, on which is a large crown (2). White paper is (*fol.* 22 *r.*) prepared from this plant (*kâghid* كاغد). It is called in Cairo *qirtâs* قرطاس (from Greek χάρτης *khârtês*). All references to "burnt paper" in books of medicine always mean the paper prepared from papyrus.

AUTHOR : The papyrus (*bardî* بردى) is of two kinds, a male kind producing no flower and a female one having a stem and

(1) In use also for other plants.

(2) We thus translate the word *qanqala* قنقلة of our text (T. and G.) which is missing from European dictionaries. LISÂN (XIII, 89) says that *qanqal* is the name for the crown of the Persian King Khosraw (Chosroes); but there is no doubt that the aigrette of the crown is meant, to which the umbel of the papyrus has some likeness, *Leclerc* erroneously translates that the stalk of the plant is covered with fibres.

names in the dictionaries; Eng.: Greek valerian; Fr.: valériane grecque, polémoine (polémonie) bleu; Germ.: Blaue Himmelsleiter, Jakobsleiter, griechischer Baldrian.

160. Bantâfillûn بنطافلون, *Cinquefoil* (Potentilla reptans L.). (Lecl. No. 355).

The meaning of its name is "having five leaves" and it is also known by the name "Mary's hand" (1).

Diosc. IV (42): It is also called πενταπετές (*pentapetés*), πεντάτομον (*pentátomon*), πενταδάκτυλον (*pentadáktylon*), ψευδοσέλινον (*pseudosélinon*), καλλιπέταλον (*kallipétalon*) and ξυλόλωτον (*xylólôton*). It is a plant with thin stalks, about a span long and with leaves like those of mint (*na'na'* نعنع), five leaves for each stalk (petiole) and very rarely more than five. The leaves are dentated on each side like the serration of a saw. It has a flower of yellowish-white colour. It grows in damp places near rivers. The colour of its roots is reddish. It (the root) is long and thicker than the black hellebore. It is useful for many purposes.

Galen VII (XII, 96): Its root is powerfully desiccating without sharpness or acridity.

Diosc.: Its decoction, as a wash, is useful against ulcers of the mouth (stomatitis) and toothache, as a gargle against sore throat, and as compresses against scrofula. Its confection is drunk with honey-mead (ὑδρόμελι, *hydrômeli*) against quartan and tertian fever and against epilepsy. This plant is also used in temples for purification.

COMMENTARY

This plant is undoubtedly the rosacea *Potentilla reptans L.* (cinquefoil), a European plant which was formerly a medicinal drug (*Radix et Herba Pentaphylli sive Quinquefolii majoris*). It was reputed for its styptic and stomachic properties.

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(1) This Arabic name (*kaff Maryam* كف مريم) is applied to several plants having five leaves or roots crooked like fingers, *e.g.* the Jericho-rose, turmeric, cyclamen and agnus castus.

knot-grass (*shabatbât* شبطباط *Polygonum aviculare L.*,) or of the water mint (*fûdhanag al-mâ'* فودنج الماء, *Mentha aquatica L.*) which is called in Greek καλαμίνθη (*kalaminthê*) (1). At its end grows a kind of round capitula, containing black seeds. Its root is nearly a cubit long, whitish, and resembles the root of στρούθιον (*strûthion*), *i.e.* the soap-root (*kundus* كندس, *Gypsophila Struthium L.*). It grows on mountains and in rough places.

GALEN VIII (XII, 106) : It is refining and drying, useful for strangury and sciatica, and is taken internally with vinegar for pains of the spleen. If carried about one's body as an amulet, it is good for stings of scorpions (2).

COMMENTARY

The identification of this plant is uncertain ; Tournefort gave the name of *Polemonium coeruleum* (*L.*) to the Greek valerian, but Fraas thinks that DIOSCURIDES' description agrees better with *Hypericum olympicum L.*, a kind of St. John's wort. *Polemonium* was, during the XIXth cent., still in use as a medicinal drug (in Russia). Whether the root which is sold in the Cairo bazaars under the name of *'irq el-'aqrab* عرق العقرب ("scorpion's root") is identical with it is not certain, even not probable. The identity with " the scorpion's herb " (*hashîshat al-'aqrab* حشيشة العقرب (Higâz) is equally more than doubtful.

SYNONYMS for *Polemonium coeruleum L.* :

Gr. : πολεμώνιον (*polemônion*), φιλεταίριον (*philetairion*), χιλιοδύναμον (*khiliodýnamon*, DIOSC.) ; Lat. : polemonia (PLINY XXV) ; Ar. : *fûrûmî* فورومى (Syria, BERGGR. 70), *al-mukhallisa* المخلصة ('Irâq, ISSA), *sunbul gabali* سنبل جبلى (NAFICY II, 463*a*) ; Pers. : *sunbul-i-kûhî* سنبل كوهى (NAFICY *ibid.*) ; Turk. : no

(1) This is, however, another kind of mint, growing on dry and rough soil (DIOSC. III, 35), not identical with the water-mint.

(2) This superstitious application, not in Galen's Greek text, may be an Arabic interpolation.

COMMENTARY

This is the European liliacea *Polygonatum officinale All.* (*Convallaria Polygonatum L.*), called seal-wort or Solomon's seal, on account of the odd form of the scars at the rhizome. This latter was, for a long time, an official drug (*Radix Sigilli Salomonis*) and is still in popular use, especially in Russia, for rabies, bruises and external inflammations. It is missing from most of the Oriental books on pharmacology. The name *fîlûrâ* (filora?) given by Gh. may be of a Spanish vernacular origin. We were not able to find it in any Spanish botanical work (the actual name being *yerba del panadizo*).

SYNONYMS: Gr.: πολυγόνατον (*polygónaton*, DIOSC., GALEN); Lat.: same name (1) (PLINY); Ar.: *kathîr ar-rukab* كثير الركب *fîlûrâ* فيلورا (? Gh.), *kathîr al-'uqad* كثير العقد (ISSA), *khitm Sulaimân* ختم سليمان (Syria, BERGGR. 870); Pers.: *muhr Sulaimân* مهر سليمان *nigîn Sulaimân* نكين سليمان (NAFICY II, 778), *khâtim Sulaimân* خاتم سليمان; Turk.: *mühür-i-Süleyman* مهر سليمان (SAMY) (2); Eng.: seal-wort, Solomon's seal; Fr.: sceau de Solomon, genouillet, herbe au panaris; Germ.: Weisswurz, weisswurzelige Maiblume, Schminkwurz, Salomonswurzel,=siegel; It.: sigillo di Salomone, di Santa Maria; Span.: sello de Salomon, yerba di panadizo, Beata Maria.

159. Bûlâmûniyûn بولامونيون, *Greek Valerian* (Polemonium coeruleum L.?).

(Lecl. No. 378).

DIOSC. IV (8); It is also called φιλεταίριον (*philetairion*) and χιλιοδύναμον (*chiliodýnamon*). It is a plant with short, thin and many-branched twigs, and leaves which are a little longer and larger than those of the rue and which resemble the leaves of

(1) Perhaps another plant is meant, as PLINY records several other names (XXII and XVII).

(2) The meaning of all these Persian and Turkish names is "Solomon's seal."

DÂWÛD (I, p. 168) follows Gh.'s description, but confuses the plant with *'anam* عنم which is another kind of mistletoe, described by ABU'L-'ABBÂS AN-NABÂTÎ and IB. (LECL. No. 1600); it is called *'anam* in Syria (LECL. No. 360). IB. quotes IBN GULGUL who gives some details about the grains of the mistletoe.

The mistletoe does not contain any active principle, only a gelatinous matter. Nevertheless, it was used as a medicinal drug until very recently (*Flores et Stipites Loranthi et Visci*) (LUERSSEN II, 924).

SYNONYMS : Ar. : *bantûma* بنتومة (Gh.), *bantûmiyâ* بنتوميا (IDRÎSÎ), *raq'a fârisiyya* رقعة فارسية (Gh.) *dharq at-tair* ذرق الطير, (Gh.) ; Pers. : same names and *shakk* (?) شك (IDRÎSÎ) ; Turk. : *pelid aghaji tuzaghi* پليد أغاجى توزاغى (HANDJÉRI II, 180 *a*) ; Eng. : oak-mistletoe; Fr. : gui de chêne; Germ. : Eichenmistel, europäische Riemenblume.

158. Bulûghûnâtun بلوغوناطن, *Seal-wort* (Polygonatum officinale All.).

(LECL, No. 379, *bûlûghûnâtun* بولوغوناطن).

Polygonaton or "many knees," known also as *al fîlûra* الفيلورا.

DIOSC. IV (6) : It is a θάμνος (*thámnos*, shrub) and grows on mountains. It is more than a cubit high and its leaves are like laurel-leaves except that they are broader and smoother. They taste a little like quince or pomegranates with some astringency. At the origin of each leaf there are numerous white flowers branching off from one place. It has a white long root with many knots, covered with down, of a very heavy smell and as thick as a finger. It removes freckles when used as a compress.

GALEN VIII (XII, 106) : Its faculty and taste are a combination of astringency and acridity, and it is disgusting and nauseating beyond any description. For this reason it is not useful for any great purpose. Some people, however, use its root in the form of compresses on the sites of contusions and for removing freckles.

knotty green branches (*fol.* 21 *v.*), with green leaves which are shorter but broader and harder than olive leaves. It has a red and viscous fruit with seeds inside. He who wishes to grow it has to split the trunk of an olive or an oak tree, or any similar tree, and to place two seeds into the hollow space of the wood, taking care to do that in the beginning of spring. In this manner it will grow.

(The juice of) its leaves when drunk with Armenian clay helps the union of broken bones. Its decoction prevents cough. Its taste is astringent and sometimes bitter.

COMMENTARY

We think that LECLERC is right when he identifies this plant with the oak-mistletoe (*Loranthus europaeus L.*) which is different to the white mistletoe (*Viscum album L.*) (1). The name *bantûma* is supposed by IDRÎSÎ to be Greek, but it is missing from the ancient treatises. The Syriac name is found under the form of *râkûmâ* רכומא or *rûkemâ* רוכמא in the most authoritative Syriac dictionary of our times (*Brockelmann*, Lex. Syriacum, p. 139 *a*).

Among the Oriental authors IDRÎSÎ is the most interesting ; we partly translate his paragraph on the mistletoe (p. 59): " *bantûmiyâ* بنتوميا is Greek, in Arabic *dharq at-tair* ذرق الطير and in Persian *shakk* (?) شك. It grows in Sicily, on the volcano, on th pine-trees as an olive-green plant. DIOSCURIDES left it out and did not mention it (2). It grows also on the trunks of olive and oak trees as short, green branches of a greenness that resembles the yellowishness of olive leaves. It does not blossom nor does it produce any fruit" (3). Then follow the medical properties of the plant.

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(1) ISSA confuses these two loranthaceae ; *Viscum album* is in Arabic *dibq* دبق and its description follows in a separate chapter.

(2) This again is a proof that it is not identical with ἰξός (*ixós*), viscum, *dibq*.

(3) This is an erroneous statement; the flowers of *Loranthus europ.* are very small and yellow; the fruits are described by Gh. himself (*see* above, p. 316); they are yellow pear-shaped berries.

leaves. It is common in gardens in warm climates. In India it is in flower during the whole year (1), but it does not seem to be medically used there. The name of *'urf ad-dîk* ("cock's comb") is, however, applied to *Amaranthus caudatus L.*, the beautiful purple love-lies-bleeding of the gardens (Loew I, 342, Issa, p. 12, 1). The amaranthaceae are not any longer medicinally used. Schlimmer (p. 28) alone mentions *Amaranthi cruenti Flores*.

The name *bustân-abrûz* is the Arabic form of the Persian word *bustân-âfrûz* or *bustân-afrûz*. Dâwûd (I, 148) describes its medicinal properties, and says that its flower is like that of *khîrî* خيرى (*Cheiranthus Cheiri L*, wall-flower); this is an error.

Synonyms: Ar.: *bustân-abrûz* بستان أبروز, *'urf ad-dîk* عرف الديك (2), *hamâhim* حماحم (Idrîsî), *dug al-amîr* دج الأمير (Issa), *daisam* ديسم, *dâh* داح (Issa), *zalâ'if al-mulûk* زلائف الملوك; (Schlimmer, p. 28), *qatîfa* قطيفة (Naficy); Pers.: *bustân afrôz* بستان افروز, *gul-i-halvâ* گل حلوا (Schlimmer), *gul-i-tâj-i-khorôs* گل تاج خروس (3) (Schlimmer), *zulf-i-'arûsân* زلف عروسان (Schlimmer), *ardeshîr gân* اردشير كان (Naficy); Turk.: *khoros ibiyi* خروس ايبيكى (4), (Samy), *qatifé chicheyi* قطيفه چيچكى (Hanjéri); Eng.: amaranth, cock's-comb flower; Fr.: fleur d'amaranthe; Germ.: Amaranth, Fuchsschwanz.

157. Bantûma بنتومة, *Mistletoe* (Loranthus europaeus (Jacq. L.).

(Lecl. No. 360).

This plant is known in our land under this name, and is also known as *ar-raq'a al-fârisiyya* الرقعة الفارسية ("Persian shift") and *dharq at-tair* ذرق الطير ("bird's dung") (5); it is also called *al-kharaftân* الخرفطان and in Syriac *mârâqûnâ* ماراقونا.

It is a plant which grows on olive trees and comes out of the tree itself. It also grows on pear-trees. It has long and

(1) W. Roxburgh, *Flora Indica*, Calcutta, 1874, p. 663.

(2) This is erroneous according to Dâwûd, and is indeed a name of basilic (Issa).

(3-4) These are terms meaning "cock's comb."

(5) The mistletoe seeds are indeed spread out by bird's dung.

have done the same: *Rumex hydrolapathum* (SPRENGEL), *Inula britannica* (DALECHAMP and FEE), *Inula odorata* (FRAAS), *Inula conyzoides D. C.* (DRAGEND., p. 666) and so on. SICKENB. (ARZN p. 32) forbears any attempt at identification.

158. Bustân Abrûz بستان أبروز, *Amaranth* (Amaranthus tricolor L. ?).

(Lecl. No. 283).

Bustân afrûz بستان أفروز is a Persian word meaning "illuminating the garden;" it is called in Arabic *'urf ad-dîk* عرف الديك ("cook's comb").

HUNAIN and AR-RÂZÎ: It is the *Britannica*.

IBN-GULGUL: It is a plant which reaches the height of over a cubit. It has long twigs on which grow leaves like those of the curving cucumber (*qithâ'* قثاء), and oblong. At the ends of the twigs are clusters (*washâ'i'* وشائع) of flowers of purple colour and of beautiful aspect, but of no aromatic smell. The first person who knew this remedy in Andalusia was YÛNUS of HARRÂN يونس الحراني (1). When its juice, gained by expression, is drunk, it is useful against the poison called ἀκόνιτον (*akôniton*), that is the *napel* (2). *see* SIMONET, *Glosario* p. 395.

AL-MAGÛSÎ: The flowers of amaranth, when taken with oxymel and juleb, are soothing to the heat of the stomach.

COMMENTARY

This plant is, according to DRAGEND. (p. 200), the beautiful *Amaranthus tricolor L.* which has green, yellow and fiery-red

(1) YÛNUS was a physician who emigrated from his town, Harrân حران (Northern Mesopotamia) to Spain where he settled down in Cordova, under the reign of MUHAMMAD I, son of 'ABD-AR-RAHMÂN II, (reigned 852–886 A.D.). He had a great reputation for his knowledge of drugs. *See* IAU II, p. 42; Leclerc, *Histoire de la médecine arabe*, vol. I, p. 424 foll.

(2) In Arabic *an-nabâl* النبال, mis-spelt in nearly all the MSS. and editions of Gh. and IB, (*banâl* بنال, *sâl* سال, etc.). Since IB. says it is a Spanish word, it must be *napelo* (*Aconitum Napellus L.*, monk's hood, wolf's bane).

For *Salix rosmarinifolia L.* in European languages: Eng.: rosemary willow; Fr.: saule à feuilles de romarin; Germ.: rosmarinblättrige Weide.

155. Bartânîqâ برطانيقى. *Britannica* (undetermined).

(Lecl. No. 258).

It is said to be the sweet *bartîqa* برطيقة.

Hunain: It is the plant called *bustân abrûz* بستان ابروز (amaranth).

Diosc. IV (2): It is an annual plant with leaves like those of sorrel (*hummâd barrî* حماض برى), but darker and covered with down. It is astringent. Its stalk is not long and its root is thin and short. It is good for ulcers of the mouth and swelling of the tonsils.

Galen VI (XI, 854); It is astringent and cicatrises wounds.

COMMENTARY

The description of this plant by Dioscurides is too vague to allow an identification of βρετανική (*bretannikê*) of which *bartânîqâ* برطانيقا (IB.) and *bartîqa* برطيقة (Gh.) are mutilations. Pliny (XXV, 20 foll.) said that it was a plant growing on the coasts of Germania opposite Britannia and that it was used by the Roman soldiers of Germanicus for healing sore mouths and for pains in the knees. Apparently that must be scurvy and the plant might have been a kind of sorrel (*Rumex*) which was known for its anti-scorbutic action. The Arabs and Persians, however, as is evident from this and the following paragraph, identified it with amaranth (Hunain, ar-Râzî and Ibn Sînâ I, 274 foll.). The old European botanists suggested entirely different plants for *Britannica, e.g. Polygonum bistorta* (Gessner), *Potentilla Tormentilla* (Matthiolus), *Pixtamano* (Ruellius) [1]. Modern botanists

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[1] All this according to Berendes (p. 367).

manuscript *bûbkar* بوبكر ; in the dialect of Sind (Lower Indus Valley) it is *sîrîs* سيريس ; it is *al-bahrâma.* ABÛ HANÎFA said : *Ar-ranf* is one of the mountain-trees ; it is the Bactrian willow (*al-khilâf al-balkhî* الخلاف البلخى). Its leaves retreat toward the branches during the night and spread out during the day. It is a Persian tree."

Then follow the words reproduced by Gh.

IBN GAZLA and IDRÎSÎ do not mention *bahrâmag.*

IB. (LECL. I, p. 263) (1) quotes a detailed description by AT-TAMÎMÎ (d. in Spain, XIth cent. A.D.) who says that the tree is as high as a pomegranate tree, and has a pink flower and peach-like smell. This would agree with *Salix rosmarinifolia L.*

SEIDEL (*Mechithar*, p. 173) who abstracted from Armenian and Persian sources gave more Persian names of the plant which he identified with *Salix Caprea L.*

There is no need to refer to Gh.'s identification of the p'ant with clematis ; it is simply erroneous.

SYNONYMS : Ar. : *ar-ranf* الرنف, *khilâf balkhî* خلاف بلخى (ABÛ HANÎFA), *khilâf barrî* خلاف برى (ISSA), *bahrâmag* برامج., *balkhîya* بلخية (IB., DÂWÛD) ; Pers. : *bahrâma* برامه., *bahrâm-i-janglî* برام جنكلى (BÎRÛNÎ), *bîd_mushk* بيد مشك, *bîd-mûsh* بيد موش, *bîd mawla* بيد موله, *bîd tabarî* بيد طبرى, *shâh-bîd* شاه بيد, *garba-i-bîd* كربه بيد, *panja-i-garba* پنجه كربه, (all in VULLERS I, 296) (2) ; *bîd-i-sultânî* بيد سلطانى (Turk. MS.). NAFICY (II, 1177) gives the name *bîd-i-surkh* بيد سرخ ("red willow") for *Salix songarica Anders.*, another native of Balkh (Bactriana). Turk. : the name for willow is *süyüt* or *süyüd* سوكوت او سوكود او سكود. In the dictionaries no name for the Bactrian willow ; but in MEYERHOF's anonymous folio- MS (Turkish) on pharmacology *balkhî suyud* بلخى سكود and *qôqar sûrqûnu* قوقر صورقونى.

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(1) This paragraph is missing in the Bûlâq Arabic edition, but is complete in MEYERHOF's MS. of IB.'s work.

(2) Moreover he quotes *bîd-i-Majnûn* بيد مجنون, but this is the Persian name for the weeping willow (*Salix babylonica L.*).

zayân ظيان (No. 1506), and it is here that he quotes Gh.'s and DIOSC.'s sayings. Indeed several of the 200 kinds or more of willows are creepers, (sallows) and the frequency of their bastardism baffles even modern botanists. But this is no reason for confusing a willow with a climbing ranunculacea.

IBN SÎDA (*Mukhassass* XI, p. 143 1, 10 foll.), who quotes ABÛ HANÎFA, enumerates *bahrâmag* among the trees, especially those growing on mountains. *See* also below, the quotation by BÎRÛNÎ.

IBN SÎNÂ (I, 272) mentions *bahrâmag* (1) only as a fragrant plant, but later on, according to DYMOCK (III, 365), treats this plant separately under the title of willow-flowers (*zahr khilâf* زهر خلاف). DYMOCK identifies it with a Persian willow, *Salix Caprea L.* which is known under the name of *bîd-i-balkhî* بيد بلخى (Bactrian willow), its flower as *bîd-mishk* بيد مشك and its gum as *bîd angubîn* بيد انكبين ("willow-honey"). The Persian settlers in India use the water (*ma'al-khilâf* ماء الخلاف) and the oil (*rawghan-i-bîd* روغن بيد) as remedies. The bark containing salicin is also in use.

GUIGUES (2) identifies *bahrâmag* with *Salix rosmarinifolia L.*, a bastard variation of the European *Salix repens L.* and *Salix viminalis L.* But the name *bahrâmag* may be in use for several of the other Central Asiatic kinds of willow.

Among the Oriental authors, BÎRÛNÎ gives the following interesting paragraph :—

'*Bahrâmag.*' The author of the 'Famous Subjects' (3) said : It is *ar-ranf* الرنف, *i.e. bahrâm-i-janglî* بهرام جنكلى, (Persian 'the wild willow') and therefore some people think that it is the wild safflower (*'usfur barrî* عصفر برى). AL-FAZÂRÎ said : *Ar-ranf* is in Persian *bûrkar* بوركر (*bûranq* بورنك?), and accoding to another

(1) It is the Arabic form of Persian *bahrâma* بهرامه.

(2) *Le livre de l'art du traitement de Najm ed-Dyn Mahmoud.* Beyrouth, 1903, p. 12.

(3) SÂHIB AL-MASHÂHÎR صاحب المشاهير, an unknown author on natural history, often quoted by BÎRÛNÎ.

is dentated and the colour of the hairs (stamina) of its blossoms is red, the other has the hairs of its blossoms green, while both have a fragrant smell.

Author: This is the wild jasmine (*yâsimîn barrî* ياسمين برى), having larger leaves than the jasmine, square twigs of purplish colour which spread out in long ropes on the soil and climb on trees. It has a white blossom, yellower than jasmine, formed in clusters with lashes (stamina) in the interior and of a very beautiful smell. The blossoms open in the summer time. It has roots as thick as the little finger. There is another kind with very fine leaves and thin twigs as those of the esparto-grass (*halfâ'* حلفاء). Both kinds are of very sharp taste and ulcerate the tongue, and for this reason common people call it the "fire herb" (*'ushbat an-nâr* عشبة النار) or "the cold fire" (*an-nâr al-bârida* النار البارده). The root of this plant is used instead of fumitory (*shaitarag* شيطرج, *Fumaria officinalis L.*) or hellebore (*kharbaq* خربق). Its small kind is the one which Dioscurides described and called κλημ:ατίς (*klêmatîs*).

Diosc. VI (180): Clematis is a plant which shoots out branches, inclined to be red and thin. They are very sharp, ulcerating the tongue; it winds round trees like μίλαχος (*mîlakhos*[1]). The faculty of its leaves is burning and hot in the first stage of the fourth degree.

Diosc.: Its fruit, drunk with water and ὑδρόμελι (*hydrómeli*, honey mead), purges phlegm and bile.

COMMENTARY

In this chapter Gh. was very much confused, and IB. was right in not following him. IB. treats *bahrâmag* in Chapter 344, and under the heading of *balkhiya* بلخية in chapter 369. He treats the clematis in a separate chapter under the heading of

[1] This is the genetive form of μῖλαξ (*mîlax*), the rough bindweed, *Smilax aspera L.*

The name *banafsag* was Arabicised from Persian *banafsha* بنفشه, and was already in use amongst the early Arabian poets who sometimes punned with the name and the word *furfîr* فرفير ("purple") (1).

IBN GAZLA says that the best violets for medicinal use in his time (XIth cent.) were the pale blue ones, which came from the town of Rustâq رستاق in the Province of Arrajân أرّجان (Western Persia). He ascribes to it a sedative effect and a power of reduction of swellings and inflammations. The cough soothing effect of the confection (*banafsag murabbâ* بنفسج مربى) was well known to him.

IDRÎSÎ (p. 64) mentions that the wild violet, as well as the garden violet, were in medicinal use.

IB. (I, 114) gives many extracts from old authors about the medicinal uses of violets.

DÂWÛD (I, 165) confirms this and adds that the root of iris is a substitute for violet.

SYNONYMS: Gr.: ἴον μέλαν (*îon mélan*) ἰωνία μέλαινα (*iônîa mélaina*, THEOPHR.), ἴον (*îon*, DIOSC., GALEN); Lat.: ion, viola (PLINY); Ar.: *banafsag* بنفسج, *furfîr* فرفير; Pers.: *banafsha* بنفشه, *farma* فرمه (VULLERS), *kâgûsh* كاكوش (VULLERS, HANDJÉRI, NAFICY) (2); *sazdâya* سزدايه (HANDJÉRI, NAFICY); Turk.: *benefshe* بنفشه (AVNI); *menekshe* منكشه (SAMY); Eng.: violet, sweet violet; Fr.: violette; Germ.: Veilchen, Märzveilchen; Copt.: ιαн.

154. Bahrâmag برامج, *Bactrian Willow*, (Salix Caprea L?).

(LECL. Nos. 344 and 369).

ABÛ HANÎFA: It is *ar-ranf* الرنف (3), *i.e.* the Bactrian willow (*al-khilâf al-balkhî* الخلاف البلخى). There are two kinds of it. One

(1) This is according to BÎRÛNÎ who also mentions the Syriac mutilation of the Persian name *manashkhâ* منشخا (*see* BROCKELM, 495 b).

(2) STEINGASS spells *kâkôsh*.

(3) Our MS. T. reads *ar-rîf*, G. *ash-sharîf*, LECL. *ar-rataf* الرتف. The spelling adopted here is the correct one according to *al-Asma'î's Book on Plants and Trees* كتاب النبات والشجر للاصمعى (ed Aug. HAFFNER, Boyrouth, 1898, p. 44).

153. Banafsag بنفسج, *Violet* (Viola odorata L.).

(Lecl. No. 353).

Diosc. IV (121) (1): (*fol.* 21 *r.*) Ἴον (*íon*). Its leaves are smaller than those of κισσός (*kissôs*, ivy), thinner and much darker; yet they are not unlike them.

Ibn al-Gazzâr: They are like the leaves of mallow (*khubâzî* خبازى), and its twigs grow prostrate on the soil.

Diosc.: Its leaves are smaller than those of *Hibiscus* (*khubaiz*) خبيز (2); its stalk comes forth from a root carrying a purple (-violet) flower of a very pleasant smell. It grows in shady and rough places. (The infusion of) its flower in water, when drunk, is useful for quinsy (*khunnâq* خناق) and epilepsy (*sara'* صرع) of children, and its leaves, as compresses, are cooling.

Galen VI (XI, 889): The nature of its leaves is watery and a little cold.

COMMENTARY

The plant in question is the violet, *Viola odorata L.* called by Theophr. ἴον μέλαν (*ion melan*) or ἰωνία μέλαινα (*iônía mélaina*) black violet (3). Violet was considered as a holy plant amongst different nations and served in Ancient Greece in the cult of the goddess Persephone. Its medicinal use was very widespread and *Flores Violae* are still an official drug used in syrups for cough. The colouring matter of the flowers is easily turned red by acids and green by alkalies. The active perfume (*ionon*) is now systematically prepared from citral. The active medical principle is a kind of emetine; it is more easily extracted from the creeping root of the plant.

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(1) In both MSS. T. and G, III; this is a copyist's error.

(2) This passage is not in Diosc's original text.

(3) His ἴον λευκόν (*ion leukón*), "white violet," is the stock, *Matthiola incana R. Br.* (Cruciferae).

The word *bahâr* بهار designates in Persian "spring," but the name of the plant is more likely to be derived from the Arabic verb *bahara* بهر , "to shine, to fascinate."

IBN GAZLA and BÎRÛNÎ wrote that the leaves of *bahâr* are partly red.

IDRÎSÎ (p. 57) describes under the name of *bahâr* several different compositae, some of which have a red capitulum and yellow petals, and others a yellow capitulum and white petals.

DUCROS (p. 26), twenty years ago, determined the drug which was sold under the name of *behâr* in the Cairo bazaars as *Anthemis tinctoria L*, coming from Europe. It was sold with long stalks and used for the treatment of wounds as well as for dyeing.

SYNONYMS : Gr. ; βούφθαλμον (*bûphtalmon*), κάχλας (*kákhlas*, DIOSC.) ; Lat. : buphthalmos (PLINY) ; Ar. : *bahâr* بهار, *uqhuwân asfar* اقحوان اصفر *'ain al-baqar* عين البقر, *'ain al-qutt* and *'ain al-hirr* عين القط وعين الهر ("cat's eye," Modern Egypt), *khubz al-ghurâb* خبز الغراب (Spain, Gh.), *ward al-himâr* ورد الحمار, *mahâr* مهار (Syria, BERGGR), *arbayân* اربيان (DOZY), *'ain aghlâ* عين أغلى (Syria, Low I, 370), *ribyân* ربيان (*Authemis rotata*, Egypt, SCHWEINF.), *mandîliyya* منديلية (Modern Egypt, SCHWEINF.), *dhu'l-ghait* ذو الغيط (Mod. Egypt, ASCHERSON), *'ain el-hagal* عين الحجل (small kind, Syria IB.) ; BERBER : *âmellâl* آملال (IB.) ; Pers. : *bâbûna* (*gul*)-*i-gaw-chashm* بابونه او كل كاوچشم (ABÛ MANSÛR, IBN SÎNÂ, etc.), *uqhuwân zard* اقحوان زرد (NAFICY) ; Turk. : *sîghîr gözü fidâni* صيغير كوزى فدانى (SAMY, p. 355), *sîghîr gözü* صيغير كوزى (HANDJÉRI I, 310). Egypt : [illegible], Dem. [illegible], *thw-'b*, *see* Demotic Mag. Papyrus Col. (I., 1.I. Verso).

In European languages, for *Anthemis arvensis* : Eng. : dog's camomile, buphthalmum ; Fr. : buphtalme ; Germ. : Acker-Hunds-kamille.

For *Chrysanthemum coronarium* : Eng. : crown-daisy ; Fr. : marguérite des champs ; Germ. : gekrönte Wucherblume, gelbe Margerite.

IBN SÎNÂ : It is *gaw-chashm* گاوچشم (1). Its flower is yellow-coloured, the centre being red and more developed than that of the camomile.

COMMENTARY

The identity of *buphthalmon-bahâr* has not been exactly fixed, the number of camomile-like compositae with yellow petals being very considerable. It is probable that the modern *buphthalmon* does not correspond to that of the Ancients. The different kinds of these plants are probably the following :—

1. *Anthemis arvensis L.* (dog's fennel, ISSA), a common weed in Europe.

2. *Chrysanthemum coronarium L.* (crown daisy), common in South Europe and on the coasts of North Africa. It was probably cultivated in Ancient Egyptian gardens (KEIMER, p. 10 foll.) as it was found in crowns and garlands of tombs from Thebes, dating from the XVIIIth to the XXVth dynasties (1500 to 500 B.C.).

3. *Anacyclus valentinus L.* (KOSTELETZKY), a native of the same lands.

4. *Anacyclus radiatus Lois* or *Anthemis valentina* (Sprengel).

5. *Chrysanthemum segetum L.* (TSCHIRCH I, 562).

In North Africa *behâr*, in Spain *albihar*, is the actual name for *'ain al-baqar=buphthalmon*, but more frequently applied to the amaryllidea *Narcissus Tazzetta L.* (primrose-peerless) ; this is according to LOEW I, p. 370.

IBN AL-'AWWÂM (II, p. 264) writes about the cultivation of *bahâr*, but calls it white. Thus it cannot be our yellow-petalled plant. As to the red-coloured *buphthalmon* of IBN SÎNÂ, it must be *Anacyclus officinarum Hayn.* or something like it.

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(1) Persian "ox's eye."

with k. or q. (بابونك وبابونق), *al-haudhân* الحوذان (Syria, LOEW), *ra's adh-dhahab* رأس الذهب (Syria, LOEW). *bâlbîsûn* باليسون (Syria, XVIth. cent., DÂWÛD), *karkâsh* كركاش (Egypt, IB.), *'ain el-qutt* عين القط, *firâkh umm 'Alî* فراخ ام على, *shîh bâbûnig* شيح بابونج (Modern Egypt), *habaq-al-baqar* حبق البقر; for other names *see* ISSA (18, 5 and 115, 12); Pers.: *bâbûna* بابونه, *bâbûna-i-shîrâzî* بابونه شيرازى; *gul-i-Gûristân* كل كورستان (NAFICY I,247), *kûpal* كوپل (HANJÉRI, NAFICY); Turk.: *bâbûnej* بابونج, *papadiyé, chichcyi* پاپاديه جيجكى (HANDJÉRI, SAMY).

European names for *Anthemis nobilis*:

Eng.: (Roman) camomile, camamel; Fr.: camomille romaine; Germ.: römische Kamille; Span.: manzanilla romana.

For *Matricaria Chamomilla*:

Eng.: wild camomile; Fr.: camomile commune; Germ.: Mutterkamille, echte Kamille; Span.: magarzuela, amargaza,

152. Bahâr بهار, *Dog's Camomile, Dog's Fennel* (Anthemis arvensis L.) or *Crown Daisy* (Chrysanthemum coronarium L.).

(LECL. No. 365).

It is the yellow camomile (*uqhuwân asfar* اقحوان اصفر). Some people call it the "raven's bread" (*khubz al-ghurâb* خبز الغراب); *albahâr* البهار is known by the laity as "narcissus" (*nargis* نرجس).

DIOSC. III (139): Βούφθαλμον (*bûphthalmon*) or "cow's eye." It is a plant with a tender stem, leaves like those of the fennel and yellow flowers which are larger than those of the camomile, resembling eyes. It grows on heaps of manure. It resolves phlegmatic swellings when used with κηρώτη (*kérôtê*, wax plaster). If drunk by a jaundiced person in the bath-room after coming out of the hot tub, the colour of his skin is improved because he vomits water (1).

GALEN VI (XI, 852): Its flowers are bigger than that of camomile and more powerfully resolvent.

(1) The last words are missing from DIOSC.'s text.

Egypt, and that it was introduced into Andalusia (probably by the Arabs) and cultivated from Cadiz up to Toledo. In the author's time (about 1200 A.D.) it ceased to be cultivated in Spain, but grew wild.

IB. (IBN AL-BAITÂR) himself adds that the plant described by DIOSC. was called in Egypt *karkâsh* كركاش, in North Africa *rigl ad-dugâg* رجل الدجاج, in Spain *maqarja* مقرجه (*i.e.* Spanish *magarza* [1]) and by the Arabs *uqhuwân* اقحوان [2]. This kind was no longer in use at IB.'s time (about 1230 A.D.); the one used was called *bâbûnag*." This latter is, according to *Sickenb.* (ARZN., p. 26) mostly *Achillea fragrantissima Sz. Bp.* (lavender-cotton).

The drug which is sold to-day in the bazaars of Cairo is of European origin and seems to be *Matricaria Chamomilla L.*. It is called *shîh-bâbunig* شيح بابونج [3]. DUCROS omits the mention of this plant.

DÂWÛD (I, p. 134) says that the plant is called in Syria *bâlbîsûn* (old Aramaic name ?) and grows everywhere, even on walls and roofs.

IBN AL-'AWWÂM (II, p. 309) speaks in detail of the cultivation of the camomile in medieval Spain.

Flores Chamomillae romanae or Anthemidis (from *Anthemis*) and *Chamomilla vulgaris* are still officinal drugs in most of the pharmacopoeas. The oil, extract, infusion and water of camomile are much in use.

SYNONYMS: GR.: ἄνθεμον (*ánthemon, Theoph.*), ἄνθεμις (*ánthemis*, DIOSC., GALEN), λευκάνθεμον (*leukánthemon*), ἠράνθεμον (*êránthemon*), μηλάνθεμον (*mêlânthemon*), χαμαίμηλον (*khamaimêlon*), χρυσοκαλλία (*khrysokallía*), καλλία (*kallía*) (all DIOSC.); Lat.: anthemis, chamaemelon (PLINY); Ar.: *bâbûnag* بابونج (also written

(1) *Magarza* is the camomile, *magarzuela* is dog's fennel.

(2) *See* above, paragraph 48 (p. 136 foll.).

(3) M. MEYERHOF, *Der Bazar der Drogen und Wohlgerüche in Kairo*, Arch. f. Wirtschaftsforschung im Orient (WEIMAR, 1918) p. 197, No. 268.

Galen (XI, 833) : It is heating in the first degree, laxative, resolvent and dilating to the pores.

COMMENTARY

This paragraph is very poor in information, particularly when compared with the corresponding chapter of IB. who quotes seven authors and gives records of his own and of his master's, Abu'l 'Abbâs', experience. It is possible that BH. has very much abridged the information of Gh. on camomile.

The plant concerned is likely to be the Roman chamomile *Anthemis nobilis L.*, but of the three kinds mentioned by Diosc. perhaps the white one is the wild camomile (*Matricaria Chamomilla L.*), the yellow one *Anthemis tinctoria L.* and the purple one *Anacyclus officinarum Hayn.* (Berendes, p. 353). We suppose that both Greeks and Muslims could not distinguish exactly between the many kinds of compositae *Anthemis* and *Matricaria* growing in the Near East. (*See* the detailed paragraph of Loew I, 375–8, and Tschirch II, 977). The active principle of the plant is a dark-blue (1) volatile oil, besides a bitter glucoside (anthemic acid), tannates, etc.

The Arabic name *babûnag* is derived from Persian *bâbûna* بابونه. This is said to be called after the name of a Persian village, *Bâbûneh* in the *'Irâq 'Arabî* عراق عربى where the plant is particularly abundant (Dymock II, 275).

Among all the authors who wrote in Arabic, only three Hispano-Moorish physicians give us the most interesting records.

Idrîsî (p. 48) gives the Greek name *anthemis* and then the "Latin" (Spanish) name *masqâla,* to be read *manzana* (apple), from the apple-like smell of some kinds of the plant, and follows with a great number of medicinal uses of the camomile.

Abu'l 'Abbâs an-Nabâtî, IB.'s teacher, says (2) that the small camomile (*Matricaria* ?) was frequent in Tunisia, Barka and

(1) When freshly distilled; it becomes greenish or brownish on keeping.

(2) Cairo edition of IB. I, p. 73.

it erroneously with *qaisûm* قيسوم (southernwood, *Artemisia abrotanum L.*). The corresponding paragraphs of Bîrûnî and Idrîsî are missing from the MSS.

Synonyms: Gr.: ἀρτεμισία (*artemisía*); Lat.: same name; Ar.: *suwailâ* سويلا (Gh.), *habaq ar-râ'i* حبق الراعى (Issa), *bilingâsif* بلنجاسف (Gh.), *biringâsif* برنجاسف (Ibn Sînâ), *biringâsa* برنجاسة (Berggr.); Pers.: *birinjâsp* برنجاسب, *bilinjasp* بلنجاسب, *buyi mâdarân* بوى مادران (Vullers I, 227, Naficy I, 96); Turk.: *baranjâsifiya* برنجاسفيه (Avni, p. 56) (1); Eng.: mugwort, motherwort, dungwort, wegwood; Fr.: armoise vulgaire, herbe de Saint Jean, couronne de Saint Jean; Germ.: gemeiner Beifuss.

151. Bâbûnag بابونج, *Roman Chamomile* (Anthemis nobilis L.) and other kinds.

(Lecl. No. 220).

Diosc. III (137): Ἄνθεμις (*ánthemis*); it is also called λευκάνθεμον (*leukánthemon*), ἠράνθεμον (*ēránthemon*, "blooming in the spring-time"), χαμαίμηλον (*khamaimēlon*, "apple of the earth") μηλάνθεμον (*mēlánthemon*, "apple-flower"), χρυσόκαλλις (*khrysókallis*, "the golden beauty") and καλλίς (*kallís*) (2). It is of three kinds, the difference between which being only in the colour of the flowers. It has stalks of one cubit (3) or less; on them there are thin twigs, small, thin leaves and small round capitula, in the interior of some of which there are white, and in others golden, flowers. The external petals are round the capitula of white, yellow or purple colour and about the size of the flowers of rue. It grows in wild soil near roads and is plucked and collected in spring-time. The faculty of this plant, its roots and flowers, is heating and refining; the purple kind is more powerful in crushing stones and the white and yellow more diuretic.

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(1) Handjeri (I, 146) gives the name *varâliqa* وراليقة; but this is the name of *Veronica officinalis*.

(2) The new text of Diosc. reads χρυσοκαλλία (*khrysokallia*) and καλλία (*kallia*).

(3) Diosc. reads: "a span;" Gh.'s text is due to an old copyist's error.

kind with shorter branches [1], and larger leaves, than the others, with small and tiny white flowers, of oppressive smell, and which blossom in summer. Some people give the name of artemisia to a plant with thin twigs and a smooth simple stalk which is very small and full of wax-coloured small flowers that renew their growth once a year.

GALEN VI [2] (XI, 839–40): The name *artemisia* is given to two herbs which are a little heating and drying and which are useful for ulcers of the uterus.

DIOSC.: All these kinds are heating and refining, and vaginal washings of their decoctions are emmenagogue and expel the placenta and the embryo.

ANOTHER AUTHOR: The yellow-flowered kind is more efficacious than the white [3].

COMMENTARY

The plant in question is mostly the composita *Artemisia vulgaris L.*, mugwort; the other two kinds mentioned by DIOSCURIDES have been determined as *Artemisia arborescens L.* and *Artemisia campestris L.* (BERENDES, p. 340). The kind with a straight stem is known to be *Artemisia spicata Jacq, growing* on the mountains of Greece (SPRENGEL). *Artemisia vulgaris* and *maritima* are very common weeds. The root (*Radix Artemisiae*) was much in use as a popular remedy and is still a medicinal drug. It contains an aromatic oil, resin and inulin.

The name *bilingâsif* بلنجاسف is derived from Persian *birinjâsp* برنجاسب. Both the name and the plant are missing from ABÛ MANSÛR's Persian pharmacological treatise. IBN SÎNA (I, 267) and IBN GAZLA call the plant *biringâsf*, and the latter identifies

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(1) Here in T. and G. اقصر (shorter) instead of انضر (more luxuriant) which corresponds to the text of DIOSC.

(2) This quotation is missing from T. and G.

(3) Following, IB. gives a short extract from Gh. on the medicinal use of artemisia. BH. left this out in the abridged edition.

COMMENTARY

This is the common composita *Tussilago Farfara L.*, colts-foot [1] or colt's foot, abundant in Europe, much used since the earliest times against cough and asthma. Its flowers and leaves are still official drugs in the Belgian, German, Danish and other pharmacopoeas (*Ungula caballina, Flores Tussilaginis, Folia Farfarae, Species pectorales*, LUERSSEN II, 1128). The flowers are one of the *quatre fleurs* of the French pharmacopoea. No active constituent of the drug is known.

SYNONYMS: Gr.: βήχιον (*bêkhion*) (HIPPOCRATES, DIOSC., GALEN), πήχιον (*pêkhion*), πίθιον (*pithion*), πετρώνιον (*petrônion*) (DIOSC.), χαμαιλεύκη (? *khamaileukê*, GALEN); Lat.: bechion, tussilago, farfarus (PLINY); Ar.: *bîkhiyûn* بيخيون, *fîkhiyûn* فيخيون, *su'alî* سعالى (IBN SÎNÂ), *hashîshat as-su'âl* حشيشة السعال (Gh.), *dûsat al-himâr* دوسة الحمار (Syria, BERGGR.); Pers.: same names; Turk.: *deve tabâni* دوه طبانى ("camel's footstep," AVNI), *öksürük otu* اوكسوروك اوتى ("cough-herb," HANDJÉRI, SAMY); Eng.: colt's foot, ass's foot; Fr.: tussilage, pas d'âne, taconnet, herbe de Saint Quirin; Germ.: Gemeiner Huflattich, Märzblume.

150. Bilingâsif بلنجاسف, *Mugwort* (Artemisia vulgaris L.).

(LECL. No. 255).

It is also called *biringâsif* برنجاسف, which is *as-suwailâ* السويلا.

DIOSC. III (113): Ἀρτεμισία (*artemisía*), the flower of mugwort. It grows mostly on the shores. It is an annual plant, reaching the height of a θάμνος (*thamnos*, shrub), resembling wormwood; but its leaves are larger than those of wormwood and have a moisture which sticks to the hand. There is another

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[1] This name, as the names in Persian, Turkish, French and German, is derived from the appearance of the leaves which have the form of the footprint of a beast of burden.

Synonyms: Gr.: ἀπαρίνη (*aparînê*), ἀμπελόκαρπος (*ampelókarpos*), ὀμφαλόκαρπος (*omphalókarpos*), φιλάνθρωπος (*philánthrôpos*) Diosc.; Lat.: lappa, aparine (Virgil, Pliny XXVII); Ar.: *misfât ar-râ'î* مصفاة الراعى (Maghrib, Gh.), *wadûd* ودود, *muhibb as-sibyân, muhibb an-nâs* محب الصبيان او الناس (Gh.), *fuwwa barrâniyya* فوة برانية (IB.), *dibbaika* دبيكة (Palestine, Loew III, 269), *hashîshat al-afâ'î* حشيشة الأفاعى. For other names *see* Issa, p. 86, 3; Pers.: *balaskanî* بلسكنى (Gh.), *palasgî* پلسكى (Vullers), *rashdûg* رشدوك (Naficy, II 1168 b.); Turk.: *balaskâ* بلسكا (Avni), *choban sözgeyi* چوبان سوزكجى (Samy), *choban sözeyi* چوبان سوزكى (Avni), *qaz otu* قاز اوتى (Samy); Eng.: bed-straw, catch-weed, goose-grass, cleavers; Fr.: aparine, grateron, rièble, gaillet accrochant; Germ.: Wandlabkraut, Kleblabkraut, kletterndes, Labkraut.

149. Bîkhiyûn بيخيون, *Coltsfoot* (Tussilago farfara L.). (Lecl. No. 1707, *fîkhiyûn* فيخيون).

Bêkhion, "cough-(allaying) herb" (*hashîshat as-su'âl* حشيشة السعال).

Diosc. III (112): It is called πίθιον (*pithion*), πήχιον (*pêchion*)and πετρώνιον (*petrônion*). Its leaves are like those of κισσός (*kissós*, ivy) but larger, growing six or seven from the same root, their colour being at the lower and whitish and at the upper greenish. They are polygonal; the length of their stalks is a span. In spring there appear on it yellow flowers; but flowers and stalks fall off quickly; that is why people think that it has neither (*fol.* 20 *v.*) flowers nor stalks. It has a thin root, and it grows in meadows and in watered places. Compresses of its leaves mixed with honey are useful for hot swellings, (phlegmons), and when dried and used as inhalations, it eases cough and dyspnoea. Its decoction in wine expels dead embryos.

Galen VI (XI, 850 foll.): It is called by this name on account of its utility for cough. It is moderately sharp and acrid, and therefore it opens abscesses (*dubailât* دبيلات).

Ibn Sînâ [1]: When fresh it heals ulcerating scabies.

[1] Under the name of *su'âlî* سعالى (Bûlâq edition I, p. 386).

DIOSC. III (90) Ἀπαρίνη (*aparinê*), also called ὀμφαλόκαρπος (*omphalókarpos*) and "lover of mankind." It is a plant with numerous long, quadrangular and rough branches on which grow leaves in a circle, distant one from the other, like the leaves of madder (*fuwwa* فوة, *Rubia tinctorum L.*). Its flowers are white and its grains are hard, round and with a depression in the middle like a navel. This plant sticks to the clothes, and it is used by shepherds as a filter to strain hairs from milk. The juice of its fruits and leaves, drunk with wine, is useful for the bite of tarantulas and vipers ; and as compresses with grease, it resolves scrofulas.

GALEN VI (XI, 834): It is moderately laxative, drying and refining.

COMMENTARY

This plant is the rubiacea *Galium Aparine L.*, called bedstraw, goose-grass, etc. It is a common weed in Europe, North-Africa, Asia and even America (probably imported). Its fresh juice, containing rubichloric acid, was used in Europe for ulcers, skin diseases and cancer (DRAGEND., p. 639), also for gout and as a diuretic (BOTICA, p. 473).

The orthography and pronunciation of the name are uncertain. Our better MS. T. spells *balaskanî* or *balsakanî* بلسكنى, the less trustworthy G. *balaskhanî* بلسخنى, while the Bûlâq edition and LECLERC's translation of IB. read *balaskî*. بلسكى. MEYERHOF'S good and old handwritten copy of IB., however, equally reads *balaskanî*, and for this reason we adopted this spelling. The origin of the word is unknown. We thought at first that it might be Greek (1), but the name is found in VULLERS' Persian dictionary (I, p. 370 b) as *palasgî* پلسگى. The name is missing from all the pharmacological treatises earlier than Gh.

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(1) Perhaps πολυσχοίνη (*polyskhoinê*) *i.e.* "having many cords" because the plant is a creeper ?

marrube noire; Germ.: Schwarze Ballote, Schwarze Gottvergess, Schwarzer Andorn.

147. Bûlûqnîmûn بولوقنيمون, *Polycnemon* (Zizyphora capitata L. ?).

(Lecl. No. 380).

Diosc. III (94): It is a small shrub used as fuel. Its leaves are like those of ὀρίγανος (*oríganos*, marjoram) and its fruit (1) like those of γλήχων (*glêkhon*, pennyroyal). It has no umbel but small capitula of aromatic and strong smell. If used for compresses it closes wounds. The dressing must not be taken off before the fifth day.

Galen VIII (XII, 107): It is heating and drying in the second, and heals the site of contusions.

COMMENTARY

The identity of *polyknemon* has not been established with any certainty. It has been taken for *Mentha arvensis*, *Prunella vulgaris* or a kind of *Polygonum*. Fraas and Littré proposed the Greek labiata *Zizyphora capitata L.* which reaches the height of a shrub (Berendes, p. 328, Leci I, 288). There are no Oriental names for this plant.

148. Balaskanî بلسكني, *Cleavers*, *Bed-Straw* (Galium Aparine L.).

(Lecl. No. 349).

It is called *misfât ar-râ'î* مصفاة الراعي ("the shepherd's filter"), *al-wadûd* الودود ("the affectionate") and *muhibb as-sibyân* محب الصبيان ("lover of children") (2).

(1) The original text of Diosc. reads instead of "fruit" καυλός, stalk. Lecl (I, 288) proposes a modification of the Arabic text.

(2) This latter name seems to have been translated from φιλάνθρωπος (*philánthropos*), one of the Greek names of the plant. These names refer to the burdock-like stickiness of the fruit.

146. Balûtâ بلوطى, *Black Hore-hound* (Ballota Nigra L.). (Lecl. No. 431).

It is also called *al-marw al-barri* المرو البرى and *raihân barrî* ريحان برى ("wild basil").

Diosc. III (103): βαλλώτη (*ballôtê*); it is also called μελαμπράσιον (*melamprâsion*). It is a plant with black quadrangular twigs, covered with down and originating from one large root. Its leaves resemble those of πράσιον (*prâsion*, hore-hound) except that they are bigger, rounder and widely separated from one another like the leaves of μελισσόφυλλον (*melissóphyllon*. balm). They are of fetid odour, and therefore some people call it μελισσόφυλλον (1). The flowers are in a circle round the twigs. Compresses of its leaves mixed with salt are useful for the bite of rabid dogs.

Galen VI (2): Its faculty is like that of πράσιον (*prâsion*, hore-hound), but it is much inferior to it.

COMMENTARY

This is the black hore-hound, the labiata *Ballota nigra L.*, a common weed growing on rubbish in Europe. It is still an officinal drug (*Herba Ballotae*) in several pharmacopœas, and was formerly used as an antidote for poisons. It is a relative of the common hore-hound (*Marrubium*). The Greek name is Arabicised and pronounced *ballûtî* or *balûtâ*.

Synonyms: Gr.: βαλλώτη (*ballôtê*), μελαμπράσιον (*melamprâsion*); Lat.: porrum nigrum (Pliny XXVII); Ar.: *ballûtî*, *balûtâ* بلوطى, *frâsiyûn aswad* فراسيون اسود (Berggren), *sindiyân al-ard* سنديان الارض; Pers.: *gandanâyi aswad* كندناى اسود (Naficy); Turk.: *qara yer prâsasi* (Handjéri) or *prakñsasi* (Avni) قره يرپراصه سى (پرخصه سى); Eng.: black hore-hound; Fr.: ballote fétide,

(1) This is a slight perversion of the original order, already found in Dioscurides' text
(2) Not in Kuehn's edition.

COMMENTARY

This is the common mountain-balm, the labiata *Melissa officinalis L.* IB. quotes some lines of Gh. on the medical qualities of the balm, a quotation which was left out by BH. in his abridged edition. The plant is still medically used in most of the Northern lands. It is sometimes cultivated, *e.g.* in Thüringen and in the Black Forest in Germany. Its leaves, oil and infusion (*Folia, Oleum, Aqua Melissae*) are medicinal drugs and enter into the composition of a resolvent tea (*Species resolventes*), of the "Carmelite liquor" (*Aqua Carmelitarum*), the *Spiritus Melissae compositus* and many other preparations (*see Luerssen*, I,1027).

The name *bâdrangbûya*, etc., بادرنجبوية is the Arabicised form of a Persian word meaning "citron-scented." This name is sometimes applied to another labiata *Nepeta Cataria L. var. citriodora Becker* (MECHITHAR, p. 247). In the Spanish language there are still traces of the Persian names among the names of *melisa* or *cidroncella*: *bedarangi, albedarrumbe* and *torongil* (BOTICA, p. 747).

IBN AL-ʿAWWÂM (II, p. 273 foll.) wrote a paragraph on the cultivation of balm and its use for attracting bees to the hives.

SYNONYMS: Gr.: μελισσόφυλλον (*melissóphyllon*), μελίτταινα (*mellíttaina*); Lat.: aspiastrum (PLINY XX); Ar.: *bâdrangbûya* بادرنجبوية, *bâdhranbûya* باذرنبوية, *mufarrih al-qalb* مفرح القلب (DAWÛD), *raihân lîmûnî* ريحان ليمونى, *baqlat ad-dabb* بقلة الضب (ISSA), *habaq* and *raihân turungâni* حبق وريحان ترنجانى, *lâʿiba nahliyya* لاعبة نحلية (GH.), *ʿushb an-nahl* عشب النحل, *lâʿiyyat an-nahl* لاعية النحل, (LOEW II, 75); Pers.: *bâdrangbûya* بادرنك بويه, *turunjân* ترنجان; Turk.: *oghul otu* اوغل اوتى, (AVNI, HANDJÉRI), *melissa* مليسا (SAMY); Eng.: balm, mountain-balm, balm-gentle; Fr.: mélisse (officinale), citronelle, herbe au citron, piment des ruches, ponchirade, etc.; Germ.: Melissenkraut, Zitronenkraut, Zitronenmelisse.

(Abû Mansûr and after), *shâh-isparam* شاه اسپرم, *bustân-afrûz* بستان أفروز (Vullers), *raihân-i-kûhî* ريحان كوهى, *raihân-i-sebz* ريحان سبز (Schlimmer), *habaq-i-nabatî* حبق نبطى (Naficy); Turk.: same names and *fesliyen* فسلكن (mutilation of *basilicon*, *AVNI*), *Hind fesliyen* هند فسلكن (Samy); Eng.: (sweet) basil, basil-royal; Fr.: basilic, basilie, grand basilie, basilie royal, basilie romain, basilie commun; Germ.: (grossblättriges) Basilienkraut, süsses Königskraut.

145. Bâdhrangbûya باذرنجبوية, (*Mountain-*) *Balm* (Melissa officinalis L.).

(Lecl. No. 221).

It is *al-lâ'iba an-nahliyya* اللاعبة النحلية (1) and *at-turungân* الترنجان.

Diosc. III (104): Μελισσόφυλλον (*melissóphyllon*) called also μελίτταινα (*melíttaina*) or the bee's herb. It is so called because bees like to hover over it. Its leaves and twigs resemble those of βαλλώτη (*ballôtê*) (2), except that its leaves are larger and devoid of down. Its odour is like that of lemons. Its leaves (prepared and) drunk with rue and applied in compresses to the place are useful for the sting of scorpions and the bite of the tarantula (*rutailâ'* رتيلاء) and of rabid dogs.

Another Author: It is moderately heating and refining, useful for diseases caused by black bile, for perfuming foul breath and gladdening the heart. Its dose is twenty drachms of the juice of its leaves. It is eaten raw or boiled.

Galen VII (XII, 71) (3): Its faculties are like those of πράσιον (*prasion*) (4), but it is much inferior to it.

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(1) I.e. "furnishing juice (honey) to the bees."

(2) It is the black hore-hound (*Ballota nigra L.*); see below No. 146.

(3) IB. (I, p. 74, 129) pretends that Galen does not mention the balm; this is an error.

(4) Hore-hound (*Marrubium Vulgare L.*).

of names, Arabic and Persian, for the different kinds of *Ocimum*, and regulations for their cultivation.

All Persian and Arabic authors repeat DIOSCURIDES' allegation that basil is bad for the stomach. In Europe, however, the herb and oil were medicinal drugs used as carminatives and nervine tonics. It is still used, like thyme and sage, as a condiment for seasoning certain kinds of food. In India, the herb and seeds are used (DYMOCK III, 83).

In Ancient Egypt no kind of *Ocimum* has so far been found in the tombs, but Greek authors relate that it was cultivated as a spice and also used for making wreaths. To-day *Ocimum Basilicum* is a well-known and widely cultivated spice-plant in the gardens of Egypt (KEIMER, p. 23–24).

DÂWÛD (I, 131) gives quite correctly the Hebrew (Aramaic) name *hôk* حوك for basil, and continues : " It is planted by women in the houses, but it also grows wild. Its name in our land (Syria) is " red basil " (*raihân ahmar* ريحان احمر) and some people call it *as-sulaimânî* السليمانى because the spirits (*Jinn*) brought it to (King) Solomon who cured dysentery (*rîh ahmar* ريح أحمر) with it. It has broad leaves, a quadrangular stalk, is acrid but not strongly so......." Then follow thirteen more lines about its medical properties.

SYNONYMS : Gr. : ὤκιμον (*ôkimon*) ; Lat. : ocimum (*Pliny*) (1) ; Ar. : *habaq* حبق, *hawk* حوك, *habaq raihânî* حبق ريحانى, *raihân malikî* ريحان ملكى, *habaq kirmânî* حبق كرمانى, *dawmar* and *dawmarân* ضومر وضومران (ABÛ HANÎFA, BÎRÛNÎ), *habaq sa'tarî* حبق صعترى, *habaq bustânî* حبق بستانى, *rîhân* ريحان (Egypt, SCHWEINF.), *shufr* شفر (*Hadramawt*, ISSA), *hamâhim* حماحم (DOZY), *raihân kabîr* ريحان كبير (BERGGREN), *habaq hamâhimî* حبق حماحمى, *habaq al-hâginî* حبق الحاجنى IBN AL-'AWWÂM), *humhuma* حمحمه (Yemen, LOEW acc. to Yahuda), *sa'tar hindî* صعتر هندى (LOEW) and more names. Pers.: *bâdrûî* باذروج

(1) The name *basilicum* seems to be medieval and translated from one of the Arabic or Persian names.

الحبق القرنفلي is one of its kinds, but some people in the East call it *al-mâida.*

GALEN VII (XII, 158): It is hot in the second degree. It is not useful in external administration, but is resolvent and maturing when used as compresses.

DIOSC. II (141): Ὤκιμον (*ôkimon*), *i.e.* sweet basil, when eaten causes dimness of sight, and purgation, but is aphrodisiac and diuretic; it is difficult to digest. Its juice clears up dim-sightedness, but when smelled it causes sneezing; it is necessary to close the eyes well during sneezing. Libyans pretend that he who eats it does not feel the pain of the sting of scorpions (1). Some people prohibit its consumption because, if chewed and left in the sun, it generates worms.

AR-RÂZÎ: It is good for the stomach and heart, but its abuse causes dimness of sight.

IBN SÎNÂ: There are opposite faculties in it; therefore it purges internally and checks epistaxis when externally applied, especially when mixed with vinegar and camphor. It soothes (pain in) the teeth and calms sneezing in one temperament but promotes it in another (*fol* 20 *r*). Its eating leads to bad consequences; it weakens the memory very much, and generates worms in the intestines, and blood of a bad quality.

COMMENTARY

Bâdharûg or *bâdrûj* is the Persian name for sweet basil, *Ocimum Basilicum L.* and its varieties. The Arabic names of the plant, or better, of the group of Ocimoideae, are *raihân* ريحان, *habaq* حبق and *hawk* حوك (from Syriac *hawkâ* ܚܘܟܐ). *See Loew's* learned and detailed paragraph (II, 78–83) on the Oriental names of *Ocimum*. IBN AL-ʿAWWÂM (II, 279–84) gives a series

(1) DIOSC.'s Greek text reads, on the contrary, that he who eats it and is stung by a scorpion is irrevocably lost. The following phrase is missing from DIOSCURIDES.

not carrying more than six petals, which are so hard that they prevent its being chewed; camels refuse to eat it. Some of it reach two cubits high and the thorns in its head grow long like needles. This kind is called "snake's thorn" (*shawk al-hayya* شوك الحية). There is one variety which is short resembling safflower (*'usfur* عصفر) with leaves broader than those of the first kind and something yellow in its flower. It is peeled and eaten fresh (young) like *al-usturghâr* (*see* above article No. 36, p. 118). The Egyptians call it *al-lihlâh* اللحلاح ...."

This latter plant is still so-called to-day and is the golden thistle *Scolymus hispanicus L.* (SCHWEINF).

It is evident that the thistles described by the Greeks as *âtkantha leukê* and by the Persian and Arabs as *bâdâward* belong to different species. They seem to be mostly *Cnicus* and *Cirsium*, also *Carduus* and *Jurinea*.

SYNONYMS for *Cnicus Acarna L.*: Gr.: ἄκαρνα (*ákarna. Theoph.*), ἄκανθα λευκή (*ákantha leukê.* DIOCS. *and Galen*); Lat.: acanus (*Pliny* XXII); Ar.: *shawka baidâ'* شوكة بيضاء: *shawk al-hamîr* شوك الحمير, *shawk al-gimâl* شوك الجمال, *shawk al-hayya* شوك الحية (DÂWÛD) (1), *ri'â al-hamîr* رعى الحمير (ISSA); Copt.: ⲉⲛⲧⲏϫ ⲉⲛⲧⲏϭ Egypt. [hieroglyphs] *'intk' intg*; Pers.: *bâdaward* and *bâdhâward* بادورد وباذاورد; Turk: *dewe diyini* دوه دیکنی; Eng.: cnicus, thistle; Fr.: chardon acanthin; Germ.: Akanthusdistel.

144. Bâdharûg باذروج, *Sweet Basil* (*Ocimum basilicum L.*). (LECL. Nos. 223 and 892).

It is *al-habaq ar-raihânî* الحبق الريحاني ("the odorant basil").

IBN GULGUL: It is the *habaq* (2) with broad leaves and vivid green colour, which grows in gardens. *Al-habaq al-qurunfilî* (3)

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(1) I.e. "viper's thorns," perhaps the same as *shawk al-hanash* شوك الحنش used for several kinds of thistles and thorn-shrubs (*see* ISSA, pp. 49, 125, 128).

(2) *Habaq* حبق is the name of several odorant kinds of labiatae.

(3) This is *Ocimum pilosum W.* (India), a variety of *O. basilicum.*

كا عريانا وأيضا سابا خوارا (1); its Arabic name is *ash-shukâ'* الشكاع. But it is so unsettled that some people call the same plant *bâdhâward* باذاورد and *shukâ'* شكاع, while others take it for two different plants. We leave the final decision to the (article on) *ash-shukâ'* (2) and discuss here only that which concerns the first (name). AR-RÂZÎ said: "*Bâdhâward* is a thistle resembling caltrop (*hasak* حسك) but whiter and less thorny. ABÛ MU'ÂDH and ABU'L-KHAJR say that the white thistle and *ash-shukâ'* are the same as *bâdhâward*. They also say that *bâdhâward* is called in SÎSTÂN (3) *jûlâh-kash* جولاه‌كش. *Shukâ'î* شكاعى is the thorn-shrub called in Persian *tarûhi* تروهى (?) and on which is found the manna (*tarangubîn* ترنجبين). I do not think that this is true, as the manna is oozed out by *al-hâg* الحاج (camel-thorn, *Alhagi Maurorum Tournef.*) and that *al-hâg* resembles wind-figs in its lightness."

Then follows an extract from Dioscurides, and at the end a notice is added, *viz*: "It is said that this (Dioscurides') description refers to the thistle (*haishar* هيشر) which is called in Sigzî-dialect (4) *jâjâwûnî* زازاونى).

IDRÎSÎ (p. 49) says that *bâdhâward* has heads like the wild (woolly) safflower (*qurtum barrî* قرطم برى, *Carthamus lanatus L.*), and identifies it with the *akhanthion* of DIOSC. (*see* above, our article No. 26, p. 07), but gives DIOSC's description of *âkantha leukê*.

DÂWÛD (I, p. 130) says: "*Bâdhâward* is a Persian-Nabataean (sic!) name, the meaning of which is "white thistle." In Greek it is called πράσιον (*prăsion*) (5) and *ákantha leukê*. It has a triangular stem, the upper part being round with erect thorny leaves and a red flower with a kind of white hair in its centre,

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(1) For the first word we could not find an equivalent, for the second *Brockelm.*, p. 627 *sîretâ* ܣܝܪܬܐ and 217 *hadûretâ* ܗܕܘܪܬܐ.

(2) This paragraph is unfortunately missing from the *Bîrûnî* MS., falling into the gap of the letter *shîn* ش.

(3) To-day Balûchistân.

(4) The language of the above-mentioned land, Sistân or Sigistân.

(5) This is an error; *prasion* is the hore-hound (*Marrubium vulgare L.*, Labiatae).

except that they are more round. The drinking of (a decoction of) its root is good for haemoptysis and chronic diarrhoea. Its seed is useful for the bite of snakes; if hung in places where venomous reptiles (*hawâmm* هوام) are found, it expels them.

GALEN VI (XI, 819): Its root is dessicating and moderately astringent. When applied as compresses it causes the atrophy of soft swellings, and its decoction is useful for toothache as a gargle.

AL-MAGÛSI: Its root is more efficient than its leaves. It is useful for prolonged fevers, and, when masticated into a paste and applied locally to the sting of scorpions it relieves it.

COMMENTARY

This is the common thistle, the composita *Cnicus acarna L.*, (*Picnomon acarna Coss.*) or, perhaps, according to FRAAS, the high-grown mountain thistle *Cnicus ferox L.* SICKENBERGER (*Arzn.*, p. 27) does not try to determine the particular kind of thistle. THEOPHRASTUS (VI, 4) calls it ἄκαρνα (*ákarna*) while his *ákantha leukê* is a quite different plant, *Acacia albida Del.*, an Egyptian tree. The name *bâdaward* or *bâdhâward* باذاورد is Persian and is mentioned by ABÛ MANSÛR (p. 164).

IBN SÎNÂ (I, p. 265) and IBN GAZLA only repeat DIOSCURIDES' description.

AL-BÎRÛNÎ (p. 34): "*Bâdhâward*, a Persian name indicating the light weight and the closeness of the branches, which help it to struggle against the wind" (1).

Its Greek name is λευκανθική (*leukanthikê*) and also *darbîqa* (2), and its Syriac name *kabâ ʿaryânâ*, also *sâba khawârâ*

(1) *Bâd* in Persian is "wind," *âward* اورد "battle, fight."

(2) The first is probably λευκάκανθα (leukákantha), the second mutilated.

being a Spanish plant, it ought to have been known to Gh. On the other hand it does not exist either in Egypt or in Africa, where Copts and Sudanese live and are said to carve bracelets from it.

The name is undoubtedly Persian. Indeed we found it in VULLERS' Lexicon (I, p. 204) under the forms of *badisghân* بدسغان, *badishghân* بدشغان, *badisgân* بدسكان and *badishgân* بدشكان; VULLERS identifies it with *Convolvulus arvensis* (bindweed), *helxinê* of Dioscurides, Arabic *qâtil abîhi* قاتل أبيه, *liblâb* لبلاب, etc. This plant is too well known in Europe to be identical with the drug mentioned by Gh. and his old authors.

To-day there is no plant in Egypt which could be used for bracelets, but in the Sudan there are trees and creepers which provide curled rings for the above purpose.

Achundow (p. 398) calls it *badkasân* بدكسان and believes it to be identical with *kesht berkesht* كشت بركشت (the screw-tree, *Helicteres Isora L.*) the spinal shoots of which are used as bracelets. But this again is an Asiatic plant and is not found in Africa at all.

143. Bâdhâward باذاورد, *Thistle, Cnicus* (Picnomon Acarna Coss.) and others.

(Lecl. No. 222).

DIOSC. III (12): Ἄκανθα λευκή (*ákantha leukê*) or the white thistle. It grows on mountains and in thickets. Its leaves are like those of the white χαμαιλέων (*khamailéôn*) [1], but finer and whiter, and covered with a kind of (woolly) down. It is a thistle with a stem that rises over two cubits high, as thick as a thumb and even thicker, not so white in colour, hollow and quadrangular [2]. At its end is a thorny head resembling that of a sea-urchin except that it is smaller and more elongated. Its flower is purple-coloured, its seeds are like the grains of safflower,

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(1) *Atractylis gummifera L.* See above in article No. 25 (*Ishkhis*, p. 95).

(2) The word "quadrangular" is missing in Diosc.'s original text.

The root which is sold at the present time in the Cairo bazaars under the name of *al-mista'gila* is the bulbous root of an orchid, perhaps *Orchis hircina L.* It is sometimes four or five-fold, rugged, brown outside and white inside and has a slightly sweet taste. *'Irq el-intirâb* is a quite different drug —a long grey root, white inside, and has no taste. It resembles the root of *Potentilla Tormentilla.*

SYNONYMS for this drug are given in a great number by ISSA (p. 129, 8). We give the following as being the most probable :—

AR. : *bahag* بهج, *musta'gila* مستعجلة (Gh., IB.), *la'ba murra* لعبة مرة (DÂWÛD), *'irq intirâb* عرق انطراب (Egypt, DÂWÛD), *bûzîdân maghribî* بوزيدان مغربى (ISSA) ; Berber : *thâghashtasht* ثاغشتشت (? IDRÎSÎ) (1). There are no European synonyms for this drug.

142. Badiskân بدسكان. (Undetermined).

(Lecl. Nos. 252 and 1954 — *badhiskân* بذسكان).

It is called *bâdâsqân, badasqân* and *badâskân* باداسقان و بدسقان و بداسكان

IBN SARÂFIYÛN : It is said that it is a cylindrical plant which is imported from *Adharbaijân* اذربيجان (2).

AR-RÂZÎ : A plant of which the Copts make bracelets.

IBN SÎNÂ : A plant of which the Negroes make bracelets.

AL-MAGÛSÎ : (3) It is hot, dry sedative and resolvent.

COMMENTARY

Sprengel and Leclerc think that this plant is the leguminosa Spanish broom (*Spartium junceum S.*). This is not possible as,

(1) The last two names prove that the plant must exist in North Africa.

(2) A land in Northern Persia, to the west of the Caspian Sea.

(3) *See Introduction* No. 27, p. 17.

it was exported to Syria. SICKENBERGER (Plantes, p. 19) tried to identify the drug and proposed *Centaurea glomerata Vahl*; this is not probable as the drug has a nutrient quality. *Al-mughâth*, mentioned by Gh., is the very big white root of GLOSSOSTEMON BRUGUIERI D. C. exported from 'Irâq to the lands of the Near East. *Bûzîdân* is mostly the root of ORCHIS MORIO L. (1). ISSA (p. 129) proposes ORCHIS HIRCINA L.

IDRÎSÎ (p. 65) gives a rather detailed description of the plant *bahag* بهج. A gloss in a different hand in the margin says: "It is *bûzîdân*." The description, however, does not apply to an orchid. IDRÎSÎ says; "Its name is in Latin *lanqâbthûs* لنقابثوس (2), and in Berber *thâghashtasht* ثاغشتشت. It is a plant which rises from the soil to the height of a span or even higher. It has a round crown and few small twigs. It has leaves exactly like those of the bean and is of a sweet taste. Its stalk is straight and on the ends of its twigs are small capitula like fine water bubbles, with sheaths in the interior of which there are seeds. Its root is twisted, white, easily crushed, hot and wet......."

This must be a leguminosa; its properties are said to be fortifying and aphrodisiac.

DÂWÛD again has a quite different opinion of the plant. He says: "*Musta'gila* مستعجلة. The majority of medical men take it for *bûzîdân* (orchis) though a few of them believe it to be *sûringân* (colchicum), but they all are wrong. In fact it is nothing but the twigs of the mandrake-root (*la'ba*) لعبة. These are twisted roots, and the Indian kind is both quadrangular and twisted, for if you unfold them you find them always fourfold. Much more mistaken is he who believes them to be the roots of dandelion (*tarukhshaqûq* طرخشقوق), and prescribes them as an aphrodisiac whereas they have the opposite effect. *Al-musta'gila* is now called in Egypt *'irq al-intirâb* عرق الأنطراب. I saw the Indian kind only once. The best specimen is the heavy, hard and sweet......"

(1) *See* the foregoing paragraph No. 140.

(2) Perhaps *lycapsus* (PLINY XVII), a kind of Echium ?.

which I do not know anything. Its best kind is the thick, white and rough-ended with many streaks. It is adulterated with colchicum (*or mandrake ? la'ba* لعبة)."

Ducros (No. 124) takes it for *Orchis Morio L.*, but the name *bûzîdân* or *abû zaidân* is now unknown in the Cairo drug-bazaars.

About *al-musta'gila see* the following paragraph No. 141.

Synonyms for Orchis Morio L.: Ar.: *khusâ'l-kalb, khusâ'th-tha'lab* [1] خصى الكلب والثعلب, *qâtil akhîhi* قاتل أخيه [2], *al-hay w'al-maiyit* الحى والميت [3], *'agama* عجمة (Issa, p. 129, 8); Pers.: *bûzîdân* بوزيدان; Turk *sehleb* سحلب (*Avni*); Eng.: lizard orchis, satyrium; Fr.: orchis, satyrion, grand testicule de chien; Germ.: Knabenkraut, Ragwurz, etc.

141. Bahag بهج (Orchis hircina L.?).

(Lecl. Nos. 366 and 2130).

It is *al-musta'gila* المستعجلة and a common drug which is brought from the Orient. Some people say it is *al-mughâth* المغاث and others take it for *al-bûzîdân* البوزيدان. These are white and hard twigs which are sticky; women use it to make them fat. This is an error. It is sometimes adulterated with another similar drug. It is said that it is the root of a plant which has leaves like dandelion (*tarakhshaqûn* طرخشقون, *Taraxacum officinalis*), except that it is sweet in taste. It has a red root and a sap which is as red as blood. If peeled, its inside is seen to be white. Herborists collect and sell it for *al-bahag*.

COMMENTARY

The description of this drug is missing in both Gh.'s and IB.'s texts. The latter author, however, said that *al-musta'gila* was a known plant in the region of Alexandria in Egypt wherefrom

(1) I.e. "dog's and fox's testicles."

(2) I.e. "his brother's murderer."

(3) I.e. "the living and the dead." These two names are both derived fom the aspect of the two bulbs, one of which is dry, shrivelled and old (that of the foregoing year) and one fresh and young; parent and daughter root.

GH. does not think that *bûzîdân* and *bahag* are roots of orchis.

ABÛ-MANSÛR (p. 167) mentions the drug without giving a description thereof, and his translator *Achundow* rendered the name *buzeidan* with *Orchis Morio*.

BÎRÛNI says: "*Bûzîdân*. This name is Persian, and the SINDÎ name [1] is *shadhwâr* شذوار ...... It consists of white, smooth and wholly rugged roots. One kind comes from Baghdad and is called *al-musta'gila*; this is smooth and not rugged. It is fattening to the body. AL-ARRAJÂNÎ, AR-RASÂ'ILÎ and AD-DIMISHQÎ [2] say: It is an Indian drug and the best kind is the white and thick wood, covered with many streaks; the smooth, thin and slightly white kind is bad."

We find that the description of the drug from Baghdad agrees with *al-mughâth* المغاث, the root of GLOSSOSTEMON BRUGUIERI D. C. which is treated later on. It is still sold in the Oriental drug-bazaars as a remedy causing women to become fat. Its origin was always unknown to the Arabic and Persian Pharmacologists. SCHWEINFURTH discovered its identity 50 years ago; the root is imported into Egypt from Baghdad. It grows in the mountains on the Irâq-Persian frontier.

IBN GAZLA calls it an Indian drug and repeats literally the description of the three Persian authors.

The Persian dictionaries simply say that *bûzîdan* is *al-musta'gila* in Arabic and that it is a fattening drug.

DÂWÛD (I, p. 171) says the following: "*Bûzîdân* is a collection of thousands of woody pieces which are imported from India and about which the opinion of medical men is very variable. Some say that it is *al-musta'gila* or some kind of it. Others say that *bûzîdân* is the branch and *al-musta'gila* the root; others say that it is colchicum ("the Berber-orchis," *al-la'ba al-barbariyya* اللعبة البربرية). The truth is that it is a rare drug from a plant about

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[1] Sind is the valley of the lower Indus (North-west India). The name *shadhwâr* reminds us of *jadwâr* جدوار, the Persian name of zedoary (root of CURCUMA ZEDOARIA). *See* under this drug (infrâ No. 205).

[2] Three Persian pharmacologists whose works are lost.

IBN RIDWÂN : It is a kind of *al-musta'gila* المستعجلة (1) It is hot and dry in the third degree and dissolves thick and cold chymes.

IBN MÂSAWAIH : The best kind is that which is of white colour (*fol.* 19 *v*) and the wood of which is thick, has many streaks (is very rugged) and not smooth.

HUBAISH : It is as useful as *as-sûringân* السورنجان (Colchicum) for arthritis and gout.

MÂSARGAWAIH : It is hot, increases the (secretion of) sperm and, when drunk in the dose of two drachms, relieves ascites.

IBN SÎNÂ : It is useful against poisons.

COMMENTARY

There is a great confusion of opinions about this drug and its synonyms. The descriptions given by Gh., IB. and others are, unfortunately, not only imperfect, but contradictory. DRAGENDORFF (p. 676) thinks it to be the composita *Tanacetum umbelliferum Boiss.* and DYMOCK (II, 137) *Caucalis orient.* and *daucoides L.* But the majority of historians of botany think it to be an orchidacea, probably *Orchis Morio L.* This plant has a twofold white bulb which is used as an aphrodisiac and for the preparation of salep (*sahlab* سحلب), a mucilaginous drink much in use in the Orient. This drug is in no way rare and is not imported from India, consequently cannot be identical with IBN GULGUL's drug. On the contrary, the bulbs of *Orchis laxiflora Lam.* are imported into India from Persia and Afghanistan and are called *salap misri* (Egyptian salep) (DYMOCK). Salep is, however, prepared from many kinds of *Orchis, e.g. O. mascula, longebracteata, latifolia, palustris, papilionacea, globosa, hircina* and *pyramidalis* (DRAGEND. 148–9). The species *Ophrys, Serapias, Aceras, Eulophia*, etc., also have nourishing roots which are used as aphrodisiacs.

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(1) *See* commentary and following paragraph.

he saw the red behen in the mountains (of Afghanistân probably) and that its root (*urûma* أرومه) was like a dark-red carrot.

Idrîsî (p. 47) describes the white behen-plant as being from one to two spans high, having small leaves like the common mallow (*khubâzî* خباز) which later on become dentated and large like those of the plum-tree. The root is blackish-red outside and white inside.

Dâwûd (I, 170) repeats this description and adds that the root of both kinds resembles a carrot, but is distinguished only by the colour. He then gives a long enumeration of their medicinal properties and of their substitutes.

Synonyms :

(*a*) Centaurea Behen L.

Ar. : *bahman abyad* بهمن ابيض ; Pers.: *bahman-i-safîd* بهمن سفيد ; Turk. : *âq-behmen* آق بهمن ; Eng. : white behen, white rhapontic ; Fr. : béhen blanc, rhapontic blanc ; Germ. : Behen-Flockenblume.

(*b*) Statice Limonium L.

Ar. : *bahman ahmar* بهمن أحمر ; Pers. : *bahman-i-surkh* بهمن سرخ ; Turk. : *qizil behmen* قزل بهمن ; Eng. : red behen, red rhapontic ; Fr. : béhen rouge, rhapontic rouge ; Germ. : Widerstoos.

140. Bûzîdân بوزيدان, *Orchis Morio L.* (?)

(Lecl. No. 373).

All the druggists call it *abû-zaidân* أبو زيدان and pretend it to be *khusâ'th-tha'lab* خصى الثعلب (orchis) ; but this is an erroneous opinion. Some people pretend that it is *al-bahag* البهج (1) and the truth is that it is *al-bahag* or some kind of it.

Ibn Gulgul : *Al-bûzîdân* consists of hard white roots resembling white behen (2). It is an Indian remedy not much in use but is imported to us, and I have seen it sometimes.

(1) *See* the following paragraph (No. 141).

(2) *See* the preceding paragraph (No. 139).

which the roots of the two kinds of *bahman* were cooked and eaten with sugar. However, the day was considered to be a propitious one for collecting any medicinal herbs.

White behen (or white rhapontic) is the root of the composita *Centaurea Behen L.* It is whitish-brown externally, much shrivelled and twisted, more or less branched and its inside cream-coloured. Ducros (No. 47) found it in the Cairo bazaars and gave a photograph of it. It is sometimes confused with the root of *Pastinaca Schekakul Rus.* (*shaqâqul* شقاقل or *gimgim* جمجم) and others. The first plant mentioned by Gh. may be *Rhaponticum cynaroides* growing in the Pyrenees. The second kind, of hard ivory-coloured roots described by Gh., agrees with *Glossostemon Bruguieri D. C.* (*mughâth* مغاث), a drug well known in the bazaars of the Near East.

The *red behen* (red rhapontic) is said to be the root of the Mediterranean plumbaginacea *Statice Limonium L.*, but Loew (III, 68) contests this identification. Several other plants are named as the origin of the drug, *e.g.* *Withania* (*Physalis*) *flexuosa* (Ainslie, *Materia India* II, 14). The third plant described by Gh. under the name of *kaff Adam* could not be identified. It may be mentioned here, however, that the Persian author Mîr Muhammad Husain, in his voluminous pharmacology *Makhzan al-Adwiya* مخزن الأدوية (Teheran, 1277 A.H., vol. 1), confirms Gh.'s sayings.

With regard to the two last plants (*al-kaff al-gadhmâ'* and *barshâna*) described in detail by Gh., we believe that they must belong to the species of liliaceae or amaryllideae, many kinds of which possess purple flowers and bulbous roots formed like mutilated hands ("leprous hand"). The name of "hand of lepers" (*kaff al-agdhâm* كف الأجذام) is given in modern times to *Verbena officinalis* and *Vitex agnus castus.*, but they have nothing whatever to do with *bahman*.

Abû Mansûr the Persian does not give a description of "the two *bahmans*" (*al-bahmanân* البهمنان). Bîrûnî narrated that

Spanish) vernacular *barshâna* برشانه (1). The herborists sell the root of the *barshâna* for the real white behen, and we believe that it has the same faculties. This plant has leaves one cubit long and less than a span wide, is slit up, lofty, stout, smooth, dark green and shiny. Many leaves grow from one root, and its bent ends incline downwards toward the soil. It has a stalk growing from the middle of the leaves, as thick as a thumb, long, hollow, round and, from its middle up to the end, covered with small aggregated leaves; between them are many sheaths one over the other formed like a duck's bill, which carry purple-whitish flowers and contain an acorn-shaped fruit full of viscous juice. It has a long, knotty and soft root resembling that of marsh-mallow (*khatmî* خطمى), full of viscous juice. It is buried in the soil, is somewhat sweet and bitter, and its faculty is like that of behen. It is aphrodisiac, nourishing to the body and diuretic. Some people call it *matrashâna* مطرشانة (2) and others "the merchants' herb" (*'ushbat at-tuggâr* عشبة التجار). It grows in wet places, on mountains and in moats. Some people carry it with them to (their) lodgings and gardens.

COMMENTARY

The foregoing paragraph of Gh. is missing from IB.'s text. The latter author quotes on behen only early Islamic physicians (Is-hâq ibn 'Imrân, Ibn Sînâ, ar-Râzî and Masîh). The plants described by Gh. cannot be identified exactly, although his description of the last one is remarkably detailed.

As to the name of *bahman* (behen), it is Persian and is the name of the month of January, specifically of the second day of it. We learn from Vullers (1, 288) and Dymock (II, 303 foll.) that that day called *Bahmanjana* was a holiday on

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(1) We could find neither this word nor any similar term in Spanish botanical treatises.

(2) This must be a Spanish name; probably *madreselva*, *i.e.* caprifoly (Lonicera caprifolium L.).

Another Author : The behen (*bahman*) is of two kinds, a red and a white. They are roots of the size of the carrot; most of them are twisted, curved and rippled, of an aromatic smell and flavour and somewhat viscid. The behen is hot in the second degree, thin, aperient, very fortifying to the heart, fattening, useful for gout, and an aphrodisiac.

The Author : The physicians of later periods were in agreement about the description of behen (*bahman*) and its faculty (*fol.* 19 *r.*). It is, however, unknown in our days, and the diversity (of its description) is great. That which is imported is also very different in kind, as it has no likeness to the description given by them (the old physicians).

It is imported in the form of roots like carrots, white inside and lac-coloured outside. This is said to be the red behen. There are also other fragments imported, resembling ginger, hard like horns, ivory-coloured and viscid, which are said to be the white behen. There is another plant in use called by some herborists (*shaggâr* شجار), " Adam's palm " (*kaff Adam* كف آدم) which, they say, is the red behen. This is a plant which reaches the height of about one cubit. Its leaves are of the size of, and rounded as, those of the myrtle. Its ligneous roots are of a colour intermediate between black and yellow and its inside is reddish.

There is still another plant called " the leprous hand " (*al-kaff al-gadhmâ'* الكف الجذماء) ; it has a root like a rape (*shalgama* شلجمه) of greyish-red colour, brittle, light and with two or three things resembling fingers, protruding from it. This plant shines, is square, of a purple colour, bears purple flowers like those of the orchid (*khusâ 'l-kalb* خصى الكلب) and looks as if it were one of its kinds. It grows on sand-dunes left by the sea. Its root is used as a substitute for red behen and it has the same (medicinal) faculty.

There is also another imported kind of white, long, twisted, soft and viscid roots; this is the real behen. But there are people who believe it to be the root of the plant called in

IBN AL-HAITHAM [1]; It is a plant with thin leaves of the form of those of the indigo-plant [2]. It is thin and one cubit in height. At the origin of every leaf is a small tender sprout (*'uslûg* عسلوج) at the end of which are small capitula like those on the twigs of the umbel of dill (*shibith* شبث, *Anethum graveoleus L.*); the seeds also are similar, and if the root is carried about by a woman, she does not conceive.

COMMENTARY

The description of this plant does not agree with that given by *Dioscurides* for his " other *kyklaminos* " (ed. Wellman II, 165), for the latter is the caprifoliacea *Lonicera periclymenum L.* called in Arabic *sarîmat al-gadî* صريمة الجدى, while the description given by Ibn al-Haitham cannot agree but with an umbellifera. SICKENBERGER (ARZN., p. 30) thinks that it may be a kind of *Bupleurum* with long leaves, and we believe that he is right, as there is a certain resemblance between the habits of this umbellifera and the crucifera wood (*nîl* نيل, *Isatis tinctoria L.*). Several kinds of Bupleurum were formerly in medicinal use (*see* DRAGEND., p., 486).

139. Bahman بهمن, *Behen* (Various roots).

(Lecl. No. 367).

IBN RIDWÂN: It is the root of a wild carrot (*gazar barrî* جزر برى). There are two kinds, a white and a red one.

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(1) There were two physicians with this name who both lived during the XIth cen. A.D.: (1) Abû 'Ali Muhammad ibn al-Hasan ibn al-Haitham ابو على محمد بن الحسن بن الهيثم (in Latin *Alhazen*), a famous physicist and mathematician (d. in Cairo in 1038 A.D.; *see* IAU II, p. 90–98); and (2) 'Abd ar-Rahmân b. Is-hâq b. al-Haitham عبد الرحمن بن اسحق بن الهيثم of Cordova (d. in Spain in 1063 A.D.); *see* IAU II, p. 46. Both of them wrote on simple drugs, but their books have not come down to us.

(2) The MSS. T. and G. as well as the printed edition and our MS. of IB. all read *nîl* نيل (*Crozophora tinctoria A.I.* or *Isatis tinctoria L.*). But *Leclerc* (vol. I, p. 203) proposes to read *thîl* ثيل (a graminea, either *Ajuga repens Beauv.* or *Cynodon dactylon Pers.*).

In the Brussa MS. of Bîrûnî the article *bukhûr Maryam* is missing.

Idrîsî (p. 62) gives this name and says that its root is called *al-'adhriyûna* العذريونه, in Syria *al-warqa'* الورقع (1), the root *'arthanîthâ* and as a vulgar name *khubz al-qurûd* خبز القرود ("apes' bread"). His description follows exactly the text of Dioscurides.

Dâwûd records several mutilated Greek names and some Arabic ones of the plant, and mentions, besides the purple kind of cyclamen, a blue one (*asmângûnî* اسمانجونى) with two varieties, one with smooth green, and the other with downy, whitish leaves. He adds that the bulbs are harvested in the Coptic month of *Baramûda* (ⲡⲁⲣⲙⲟⲩⲧⲉ برموده), April, but that those collected in *Ba'ûna* (June) are more efficacious. This must refer to Syria, as the plant does not grow in Egypt.

Synonyms: Gr.: κυκλάμινος (*kykláminos*); Lat.: cyclaminum (Scribonius largus), cyclaminos, tuber terrae (Pliny); baccar (Virgil, according to Sargeaunt, p. 21), Syriac ערטניתא *'arthanîthâ* عرطنيثا (the bulb) (*Loew* III, 77 and others); Ar.: *bukhûr Maryam* بخور مريم, *shagarat Maryam* شجرة مريم, *khubz al-qurûd* خبز القرود, Idrîsî, Dâwûd, *khubz al-khinzîr* خبز الخنزير, *khubz al-mashâ'ikh* خبز المشايخ (Dâwûd); *rakf, rakfa, raqf* ركف وركفة ورقف (Dâwûd, Berggren), *yarba'* يربع (Dâwûd); for other names see Issa, p. 63 and Sharaf; Pers.: the Arabic names, and *panja-i-Maryam* پنجه مريم (Schlimmer, Steingass, Naficy); Turk.: *tavshân qulaghi* طاوشان قولاغى (Samy); Eng.: sow-bread, cyclamen; Fr.: cyclamen, pain de pourceau; Germ.: Erdbrot, Erdscheibe, Schweinebrot, Alpenveilchen; Italian: pan-porcino; Spanish: pan de puerco.

138. Bukhûr Maryam Akhar بخور مريم أخر, "*Another Cyclamen*" (Bupleurum ?).

(Lecl. No. 248).

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(1) Perhaps a mis-spelling for *ar-raqf* الرقف.

with μελίκρατον (*melíkraton*, honey-milk) mixed with pure water, it cures jaundice in the dose of 3 mithqâls. The patient must, when taking it, keep warm by covering himself with many blankets or by lying in a hot room to promote perspiration. When drunk, or smeared on the navel, the abdomen and the flanks, it kills the embryo. It also purges.

Galen VII [1] (XII, 50): Its faculty is cleansing and detersive, aperient, (attracting), resolvent and diuretic; it expels the embryo, when smeared on the abdomen. It is useful to jaundiced patients as it removes gall from every part of the body by perspiration. Perspiration must be promoted in persons poisoned by it, for it is the only method of curing them.

COMMENTARY

This drug is the root of the primulacea *Cyclamen europaeum L.* The broken bulbs of the plant are sold in our days in the Cairo drug-bazaars under the name of *'artanîtâ* عرطنيثا (Ducros, No. 153). This name (*'artanîthâ* عرطنيثا) is Syriac. The Greek name (*kykláminos*) is equally known to the Oriental druggists, but in the mutilated form of *faqlâmînûn* فقلامينون. Its bulbs were, not long ago, a medicinal drug known as *Tubera Arthanitae* (Luerssen II, 942). They contain cyclamine or arthanitine, a poisonous, hemolytic kind of saponine, acting as an emetic and purgative. They can be eaten by pigs without causing them any harm. From this fact are derived the names of the plant in European languages (*See* synonyms).

Ibn Sînâ describes under the name of *'artanîthâ* (Qânûn, vol. I, 296) the root of a quite different plant.

Ibn Gazla says that *'arthanîtha* is the root of *bukhûr, Maryam* or *shagarat Maryam*, and gives a description of its medical properties according to Dioscurides.

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[1] In the MSS.: VI, copyist's error.

COMMENTARY

The description of this drug is too vague to help to an exact identification. The Italian botanist Mattioli (d. 1577), in his commentary on Dioscurides' *Materia Medica*, identified the " emetic bulb " with the liliacea *Muscari moschatum W.* Lonicer proposed *Scilla bifolia L.*, Camerarius *Narcissus poëticus L.*, Sibthorp *Ornithogalum stachyoides Ait.*, Fraas *Ornithogalum nutum*, and several others *Narcissus Jonquilla L.* (Lecl. and Sickenb , *Arzn.*, p 36) All Persian and Arabic pharmacologics simply copy Dioscurides's and Galen's paragraphs on the " emetic onion."

Synonyms : Gr : βολβὸς ἐμετικός (*bolbós emetikós*, Diosc., Galen) ; Lat : bulbus vomitorius (Pliny) ; Ar : *basal al-qayy'* بصل القيء, *bulbûs muqayyi'* بلبوس مقيء (Idrîsî, p 54), *basal al-misk* بصل المسك (Issa 121, 8) ; Pers. and Turk. : same names ; Eng. : emetic onion ; Fr. : oignon émétique ; Germ. : Brechzwiebel.

137. Bukhûr Maryam بخور مريم, *Sow-bread*, (Cyclamen europaeum L.).

(Lecl. No. 247).

Diosc. II (164) : Κυκλάμινος (*kykláminos*). Its leaves are like those of κισσός (*kissós*, ivy) and on them are traces of white coloration [1]. Its stalk is four fingers long and bears a blossom resembling a purple-red rose. It(s root) [2] is preserved like the squill (*basal al-fâr* بصل الفار). It grows in warm, shady places, particularly in the shade of trees. Its root, when drunk with ὑδρόμελι (*hydrómeli*, mead), purges excessive phlegm and dry chyme. It is said that a pregnant woman, stepping over it, aborts ; and if worn bound round the neck or the upper arm it prevents pregnancy. Mixed with wine it acts as an antidote against poisons, especially the marine hare [3], and

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(1) In the original text of Diosc. : " They are multi-coloured on the underside, variegated and whitish on the upperside."

(2) This word is missing in T. and G.

(3) *See* above, chapter No. 116.

racemosum Mill. or the purse-tassel *Muscari comosum Mill.* There are, however, some other and lesser known species of Muscari which agree with the description. *Sickenb.* (*Arzn.*; p. 42) does not try to identify the plant.

Muscari comosum Mill. grows in Egypt as well as in other lands on the Mediterranean. Its active (diuretic) principle is "comosum acid," a kind of saponine.

The drug which is sold nowadays in the Cairo drug-bazaars under the name of *basal az-zîz* بصل الزيز is the bulb of *Ornithogalum umbellatum.* L. (*Ducros,* No. 39, p. 22).

Concerning Syriac names of the bulb and their etymology see *Loew* II, pp. 184–7.

Synonyms: Gr.: βολβὸς ἐδώδιμος (*bolbós edôdimos, Diosc.*) βολβὸς ἐσθιόμενος ἥμερος (*bolbós esthiómenos hêmeros,* Galen); Lat.: bulbus (Celsus, Pliny); Ar.: *bulbûs* بلبوس, *bulbûs basal ma'kûl* بلبوس بصل ما كول (Idrîsî, Dâwûd), *basal az-zîz* بصل الزيز, (and mutilations of this name, *vide suprâ*) [1] *basal barrî* بصل برى (*Loew*), *maddâd el-qerâ'a* مداد القراعة and *busail* بصيل (Modern Egypt, Schweinf., p. 31); Pers.: *zîzî* زيزى (Abû Mansûr), *zîza* زيزه (Ibn Sînâ), *talkhpiyâz* طلخپياز (*the same*), *piyâz-kalâkh* پياز كلاخ (*Naficy* II, 1173); Eng.: purse-tassel, fair-haired hyacinth; Fr.: muscari, jacinthe a toupet; Germ.: Schopfblütige Perlhyazinthe, Schopfhyazinthe.

136. Basal al-Qayy' بصل القيء, "*Emetic Onion*" (Muscari moschatum W.?).

(Lecl. No. 297).

Diosc. IV (156): Its leaves are thinner and much longer than those of the "edible bulb." Its root is similar to the other's root, but has a black peel and is emetic.

Galen VII (XI, 852): It is hotter than the first-mentioned.

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[1] For other names see Issa (p. 121, 8) who does not, however clearly distinguish between the edible and the emetic bulb (see No. 136).

GALEN VI (XI, 851) : The purse-tassel (*az-zîz* الزيز) produces, a cold, thick and viscous chyme, as it is difficult to digest, is vaporiferous and excites the lust for coitus. Externally it cleanses, accelerates cicatrization and dries.

DIOSC. II (170) : Βολβός. It is an edible plant; the red kind comes from Libya and is good to the stomach. The bitter variety resembles the squill (*ishqîl* اشقيل) and is much better to the stomach than the sweet one. It makes the aliments more digestible and strongly excites the appetite. It makes the flesh grow, produces vapours and renders the tongue and the corners of the mouth sore. As a compress with honey it is useful for the bite of rabid dogs.

COMMENTARY

There is some confusion reigning about this plant as well as about the following (No. 136). Theophrastus mentions βολβός (*bolbós*) frequently in his books I & VII. He describes in detail the purse-tassel (*Muscari comosum Mill.*) and also several other species which are nearer to the hyacinth. Dioscurides and Galen give it the name of " edible bulb " (*see* synonyms), which was translated into Arabic as *basal ma'kûl* بصل مأكول. The other name, *basal az-zîz* بصل الزيز, correctly spelt in our T. MS., is mis-spelt by most of the later Arabic authors (*basal az-zîr* or *basal ad-dhîb* بصل الزير او بصل الذيب, *IB.*, IBN GAZLA, DÂWÛD). ABÛ MANSÛR (p. 161) calls it *zîzî* زيزى, and IBN SÎNÂ (I, p. 269) *bulbûs* or *zîza* [1] بلبوس او زيزة. The latter author says that some botanists count the *bulbûs* among the onion-plants *talkhpiyâz* طلخپياز (Persian name, missing from dictionaries). IDRÎSÎ (p. 53) describes the umbel (*qinqila* قنقلة) of the plant as resembling that of the onion This and Ibn Sînâ's note that the flower somewhat resembles the violet speak again in favour of a liliacea, the blue *Muscari*

(1) *Zîzâ'* زيزاء are (according to LISAN VII. p. 226 1, 18) the unravelled ends of feathers: so *zîz* alludes to the fringes or tassels of the bulb.

placed on mummies. The idea was to stimulate the defunct to breathe. On Sham-al-Nessim day (Easter Monday), in modern times, all Egyptians smell green onions that have been soaked in vinegar during the preceding night.

THEOPHRASTUS (b. I & VII) has distinguished many varieties of onions. The idea that the onion is possessed of nocive properties is very old; it is reiterated by all the Greek, Persian and Arabic medical writers. ABÛ MANSÛR (p. 161 foll.) gives a long paragraph on the kinds of onions known in Persia and their pretended properties. IBN GAZLA, IDRÎSÎ and DÂWÛD all repeat Dioscurides' sayings. But DÂWÛD speaks about the sweet Egyptian onion and its cultivation. IBN AL-'AWWÂM (II, 184–192) has two long paragraphs on the (Spanish) agriculture of the onion, of which he mentions a kind *al-jabalîn* الجبلين (probably a mutilation of Spanish *cebollino*).

The root *b.s.l.* بصل is generally Semitic, Hebrew, Aramaic and Ethiopian; Assyrian *bisru* (*see Loew* II, p. 126, foll.), which is also Egyptian.

SYNONYMES: Gr.: κρόμυον (*krómyon*); Lat.: cepa; Ar.: *basal* بصل, *basal 'arabî* بصل عربي (IDRÎSÎ, DÂWÛD); Pers.: *piyaz* پیاز *sûkh* سوخ; Turk.: *soghân* صوغان; Eng.: onion; Fr.: ognon, oignon; Germ.: Zwiebel, Küchenzwiebel; Egypt.: [hieroglyphs] b d r; Copt.: ⲙ̀ϫⲱⲗ.

135. Bulbûs بلبوس, *Purse-Tassel* or *Fair-haired Hyacinth* (Muscari comosum Mill., etc.).

(Lecl. No. 337).

Bulbûs is also called *basal az-zîz* بصل الزيز

AGRICULTURE: It is an onion without layers (*tâqât* طاقات). Its leaves and general shape are like those of the garden-onion. Its bulb grows quickly under abundant rain. Its taste is bitter and astringent, and makes the throat sore.

Fr. : aubergine, mélongène, varengeane ; Span. : (al)berengena, melongena ; It. : melanzana, petronciana ; Germ. : Eierfrucht, Melanzane, Melanzanapfel.

134. Basal بصل, *Onion* (Allium cepa L.).

(Lecl. No. 296).

Galen VII (XII, 48) : It is heating in the fourth degree, and its substance is consistent.

Diosc. II (151) : κρόμυον (*krómyon*). The elongated kind is more acrid than the round one, while the red one is sharper than the white. Dry onions are sharper than fresh ones and the raw are sharper than the grilled, pickled or salted. All onions are, burning, gas-forming, exciting to the appetite, cause thirst, are rarefying (to the humours of the body), stirring, emetic, ballooning the belly, opening the orifices of the blood vessels and relieving haemorrhoids. The juice of the onion, if instilled into the eye mixed with honey, is useful for weakness of the vision, for ἄργεμα (*árgema*) (1), (*fol.* 18 *v.*) white clouds and incipient cataract. The decoction is a very strong diuretic.

Another Author : It causes a nocive mixture (of humours or chymes) and is injurious to the mind. Cooking diminishes its sharpness and gives it an aphrodisiac action. If eaten raw it checks the harmfulness of the different kinds of water.

COMMENTARY

This is the ordinary garden-onion, the liliacea *Allium cepa L.* The original native land of the onion is unknown (2). The bulb itself is known from immemorial time, for it has been found in Egyptian prehistoric sites. Dry onions were found

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(1) Plur. of ἄργεμον (*árgemon*), *i.e.* a slight opacity (nebula) of the cornea of the eye. The "white cloud" (*ghamáma* غمامة) is a corneal leucoma.

(2) Sargeaunt (*The plants of Virgil*, Oxford, 1920, p. 29) however, calls it "probably a native of Beluchistan."

maghd المغد (1), *al-anab* الأنب, *al-hadaq* الحدق (2), *al-kahkab* الكهكب(3), and *al-waghd* الوغد. BÎRÛNÎ furnishes a good explanation of the name *Bûrânî* بورانى for an Oriental dish (4) or for the *bâdhingân Bûrân* باذنجان بوران ; they are both named after a Persian (Sassanian) queen, Bûrân, daughter of Parwêz, بوران بنت پرويز (who reigned for a brief period in 630 A.D.). At the end of his paragraph BÎRÛNI cites some occurrences of the *bâdhingâna* in Ancient Arabian poetry.

IDRÎSÎ (p. 68 foll.). gives a long paragraph which was mostly copied by IB. (LECL. I, p. 193 foll.). It is remarkable that Idrîsî writes *melanzâna* as a Byzantine Greek name and *baid al-gân* بيض الجان as a Berber one. The latter is undoubtedly an Arabic mutilation (its meaning is "eggs or testicles of genii") from the Persian *bâdingân*. As to the first name, the Byzantine writer Simeon Seth (XIth century A.D.) spells it ματιτάνιον or ματιζάνιον (*matitánion, matizánion*) (5).

IBN AL-ʿAWWÂM (II, 236) knows four different varieties of the brinjal; one Egyptian, one Syrian and two Spanish.

SYNONYMS: Gr.: στρύχνος κηπαῖος (*strychnos kêpaios*, DIOSC- στρ. κηπευτός (*str. kêpeutós*, GALEN), ματιτάνιον (*matitánion*, Simeon Seth); Lat.: solanum (edule) (Celsus, PLINY); Ar.: *bâdingân, bâdhingân* بادنجان وباذنجان, *maghd* or *maghad* مغد. *anab* انب, *hadaq* حدق, *waghd* وغد, *kahkab, kahkam* كهكب وكهكم; Pers.: *bâtingân, bâtinjân* باتنگان وباتنجان, *batlijân* بطلجان (NAFICY); Turk.: *patlijân* پاطلجان; Eng.: egg-plant, brinjal (the fruit) (6);

(1) LISÂN IV, 416 allows the spellings *maghad* or *maghd*.

(2) LISÂN XI, 323 spells *hadhaq* حذق.

(3) Confirmed by LISÂN II, 224, also the form *Kahkam* كهكم (according to IBN AʿRABI).

(4) Described by DOZY I, 126, last lines.

(5) SIMEONIS SETHI *Syntagma de Alimentor. Facultatibus*, ed. B. Langkavel. Leipzig, 1868, p. 70.

(6) This name is Hindustani.

not high, with numerous shoots, black leaves larger and broader than those of basilic and a globular fruit (1), green or black; it becomes yellowish when ripe. As an aliment it is harmless." The last remark proves that it cannot be the black nightshade (*Solanum nigrum L.*), the fruits of which are poisonous.

The origin of the plant and of its name is probably Indian. The old Sanscrit name is *vártáku* or *bártáku*, the name of its relative *Solanum Indicum L.* is *bhantaki* (2), *bâtinghân*, Arabicised *bâdhingân*.

All the Arabic and Persian writers, from RHAZES down to DÂWÛD, take the brinjal for a plant with nocive properties. The black colour of the fruit may have been the cause that made RHAZES (according to ABÛ MANSÛR, p. 159) think that it caused black spots on the skin, black bile and ophthalmia; and IBN SÎNÂ (*Qânûn* I, p. 272) cancer, eczema, leprosy, epilepsy, constipation, dryness of the mouth and insomnia. From this KOBERT drew the conclusion (*Achundow*, p. 346) that the fruit contained in former periods more alkaloids (solanine, etc.) than to-day. We think it is the stage of ripening that is of importance. The unripe brinjal is acrid, bitter and still contains some alkaloids; when ripe and well prepared it is a good vegetable, wholesome for food.

The European names of the plant are nearly all derived from the root *bâdhingân*. As to the four Arabic names given by AL-GHÂFIQÎ they are all confirmed by BÎRÛNÎ who names among his sources ABÛ HANÎFA, Hamza al-Isfahâni (famous philologist) and some unknown authors (3). He first gives the Syriac name *yabrûhé* يبروحي, then the names *al-maghl* المغل (HAMZA),

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(1) The fruit may be round or oblong.

(2) According to DYMOCK II, p. 555. *See*, moreover, *Zeitschr. Deutsche Morgenlând. Gesellsch.* vol. 33, p. 613, vol. 36, 21, vol. 40, 439.

(3) *Sâhib al-Mashâhîr* صاحب المشاهير and *Sâhib al-Yâqûta* صاحب الياقوتة.

of the liver and spleen. Vinegar and oil correct it. It is worst when fried or unripe (1).

ANOTHER AUTHOR : If split and salted its heat disappears and it causes no apparent damage. But it is a bad aliment, blackens the epidermis, gives a yellow tint to the complexion and generates pimples in the mouth.

IBN SÎNÂ : The old kind is bad but the fresh one is healthier. In IBN MÂSARGAWAIH'S (2) book it is written that it is cold but in reality it is hot and dry in the second degree and calming, except when boiled in vinegar. It neither constipates nor purges.

COMMENTARY

Bâdhingân is the well-known brinjal or aubergine, the fruit of the egg-plant (*Solanum Melongena L.*). The Arabian botanists believed that it was unknown to the Greeks, and so did L. LECLERC (I, p. 194) when he attacked the opinion of CLEMENT-MULLET. This author, in a note to his translation of IBN AL-ʿAWWÂM (II, 236) identifies *bâdhingân* with THEOPHRASTUS' (VII, 7) στρύχνος ἐδώδιμος *strychnos edôdimos* ("edible nightshade") and DIOSCURDES' (IV, 70) στρύχνος κηπαῖος (*strychnos kêpaios*, "garden-nightshade"). LECLERC agrees with the Arabic physicians who saw in this plant the black nightshade (*vide infrâ* article *ʿinab ath- thaʿlab* عنب الثعلب). We think, however, that the description of the Greeks may refer to several kinds of nightshade and that the edible variety cannot be anything else than *Solanum Melongena*, the fruits of which are, black, white or orange-yellow, and may be round, tomato-shaped or oblong. Considering the description of DIOSCURIDES, it is impossible to deny the identity. He says : "It is a shrub,

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(1) This paragraph is a quotation from RÂZI's book. *"On the Utility of Aliments,"* the only edition of which is out of print and extremely scarce (Cairo, 1305 A.H.). (كتاب منافع الاغذية ودفع مضارها للرازى . مصر ١٣٠٥) ص ٣٧ .

(2) He was the son of the Jewish-Persian physician Mâsargawaih (see Introduction I, No. 8, p. 10). The quotation is extracted from *Qanûn Ibn Sînâ*, Bûlâq edition I, p. 272.

mentions the name *bakhrâ'* بخراء as that of a plant and quotes ABÛ HANÎFA in a slightly different way. He adds that the Arabic name is derived from the verb *bakhara* بخر, because this herb perfumes the mouth. The Latin name *ervilia*, easily recognisable, although mutilated, in the Arabic text, furnished us with the proof that *bakhra* must be a variety of bitter vetch or ers (*Vicia Ervillia Willd.*) probably a Spanish variety. The common name for bitter vetch in Arabic is *karsana* كرسنة. The Greek name is ὄροβος (*órobos*). THEOPH. (VIII, 5, 1) distinguished several kinds, and DIOSC. (II, 108) affirmed that it was an excellent food for cattle. The old Latin name of *ervilia* still survives in Spanish *alverja* and *arveja*.

See infrâ *Karsana* كرسنة.

SYNONYMS: Gr.: ὄροβος (*órobos*); Lat.: ervilia (PLINY), ervum (Virgil) [1]; Ar.: *bakhra, bakhrâ'* بخرة وبخراء [2]; Pers.: *mîshû* ميشو, *kashnà* كشنى (*Haudjéri*), *karsana* كرسنه, *marjamak* مرجمك (*Naficy*) [3], *mâsh* ماش [4] (SCHLIMMER); Turk.: *qara purchaq* قره پورچاق (SAMY); Eng.: bitter vetch, ers.; Fr.: ers, ervillier; Germ.: Kamellinse, Linsenwicke, Erwenwicke, Wuerfelerwe.

133. Bâdhingân باذنجان, *Egg-Plant* (Solanum Melongena L.).

(Lecl. No. 227).

It is a Persian name; the plant is called in Arabic *al-anab* الأنب *al-maghd* المغد, *al-hadaq* الحدق and *al-waghd* الوغد.

AR-RÂZÎ: It is good for a stomach that rejects food all the time, but bad to the head and the eyes, because it generates black-biled blood in small quantities. It opens obstructions

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[1] *See* I. Sargeaunt, *The Trees, Shrubs and Plants of Virgil.* (Oxford, 1920) p. 42.

[2] For other Arabic names *see* Issa, p. 188. No. 18.

[3] According to the Persian dictionaries *marjamak* is a name of the lentil.

[4] At the same time the name for *Phaseolus Mungo*, *Vicia sinensis* and *nilotica* (*Issa*).

Dioscurides is likely to be *Vicia Cracca L. Pliny* (XXI, 99) affirms that the *aphace* is a perpendicular shrub, not a creeper. It is possible that ἄρακος (*arakos*) is a variety of ἀφάκη (*aphákê*). The remark of *Dioscurides* that the ἀφάκη is common in cultivated fields speaks in favour of *Vicia Cracca* which is a very common, though obnoxious, weed in the fields.

The Arabic authors do not mention the name *bîqa*, except IB. who discusses some medical properties of the plant (1). *Loew* collected many etymological terms concerning the genus *Vicia*.

See above, paragraph 63 (ÂRÂQÛS اراقوس, p. 157 foll.).

SYNONYMS · Gr.: ἀφάκη (*aphákê*, THEOPH., DIOSC.), βικίον (*bikion*, GALEN); Lat.: aphace, vicia (PLINY); Ar.: *bîqa*, *bîqâ* بيقة و بيقا (LOEW), *bîqiya* بيقية (IB.), *bâqiya* باقية (vernacular, DOZY, LOEW), *dandarân* دندران (ISSA); Pers.: *khullar* خلر (VULLERS, NAFICY); Turk.: *purchâq* بورجاق (AVNI), *burchâq* بورجاق, بورجق (SAMY, HANDJÉRI, VULLERS I, 714); Eng.: tufted vetch, cracca; Fr.: vesce craque, nois à crapaud, vesce sauvage, vesceron; Germ. · Vogelwicke.

132. Bakhra بخرة, *A Variety of Bitter Vetch.* (Vicia Ervillia Willd).

(Lecl. missing).

It is called in the foreign language (2) *arfîlîya* ارفيليه (3).

ABÛ HANÎFA: Its herb and seeds are like those of bitter vetch (*kashnâ* كشنى). Cattle which feed on it grow fat. It grows in smooth places.

COMMENTARY

The name *bakhra* is missing from nearly all the dictionaries and IB. also omitted it. *Tâg-al-'Arûs* تاج العروس (vol. III, p. 32)

(1) *Ibn al-'Awwâm* does not mention the tufted vetch because it is a weed and not a cultivated plant.

(2) Latin or Spanish.

(3) This name is mutilated in MS. T. as well as in G. It might be read *arfiliyûla* and might be a diminutive *erviliola*, modern Spanish *arvejona*.

" servant's head," and this accords better with the fruit-bulb than with the seeds of a Nymphaea, *e.g.* Lotus ; ACHUNDOW (p. 328) is in favour of Nelumbium. The Persian and Hindustani dictionaries do not give any information.

131. Bîqa بيقة , *Tufted Vetch* (Vicia Cracca L.).

(Lecl. No. 393, *Bîqiya* بيقية).

DIOSC. II (148) : 'Αφάκη (*aphakê*) grows in cultivated lands ; it is higher than the lentil plant and has thin leaves and strong twigs. Its fruit-husks are bigger than those of the lentils and contain three or four seeds each, which are blacker and smaller than lentils. If eaten cooked and pounded like lentils it stops the excess of flow of matter to the stomach and bowels.

GALEN VI (XI, 843) : The faculty of this seed is astringent ; its heat (ing power) is moderate, but it is more indigestible than lentils.

THE SAME in his *Book on Aliments* (1) : It is of bad, black-bile chyme, like lentils except that it has no such residues as the lentil.

COMMENTARY

The spelling *bîqiya* بيقية in the text of IB. is likely to be more correct than the *bîqa* بيقة (2) of our two MSS. It is undoubtedly the transliteration of Greek βικίον (*bikíon*), a name which seems to have been unknown to *Theophratus* and *Dioscurides*. It is probably derived from the Latin *vicia* and is mentioned by Galen as being in use in his time in Asia Minor, while the Attic name was ἄρακος (*ârakos*) or κύαμος (*kýamos*). The description given by *Theophrastus* of ἀφάκη (*aphâkê*) agrees best with the tare (*Vicia sativa* var. *angustifolia* Alef.), while that of

(1) Book I, chapter 36 (ed. Kuehn, vol. VI, p. 550–1) : the quotation is not literal.

(2) In Syriac it is called *biqâ* ביקא, and al-Ghâfiqî's spelling may be derived from this word (*see* LOEW II, 490).

130. Bîrûr بيرور (for *Biyârûn* بيارون ?) (Root of Nymphaea Lotus L.?).

(Lecl. No. 396). *See* above No. 129 (p. 271).

Qustâ Ibn Lûqâ: It is a plant which grows in stagnant water and rises upwards on the surface in the shape of a mushroom. It has a red bark coming out from the soil like a mushroom, which is eaten boiled.

Ibn Ridwân: It is the root of the water-lily (*bashnîn*) which grows in the Nile.

COMMENTARY

The name as well as the real kind of this drug are uncertain. The description given by the Syriac author Qustâ b. Lûqâ (*see* Introduction II, No. 21, p. 14) applies more likely to the dry fruit-cone of *Nelumbium speciosum Willd.* (*see suprâ* No. 128 and *infrâ* No. 221) which has some likeness to a brown mushroom. However, the Egyptian physicians 'Alî b. Ridwân (XIth cent. A.D.), Ibn al-Baitâr (XIIIth cent. A.D.) and Dâwûd al-Antâkî (XVIth cent. A.D.) tell us that it is the bulbous root of *Nymphaea Lotus L.* (*bashnîn*) (*see suprâ* No. 129). Dâwûd (1, p. 139, 1, 18) says: "Its root is about the size of a rape (*salgam*, Brassica napus L.); the Egyptians call it *biyârûn* بيارون. The same name is mentioned by IB. (I, 133). The etymology of this name is unknown; it sounds like Greek (perhaps πιαρόν (*piarón*) from πῖαρ (*piar*) fat, fatty substance ?). The Ancient Greek term for the bulb of *Nymphaea Lotus* is κόρσιον (*korsion*) according to *Theophratus* who concisely describes the bulb, and to Strabo (chap. 823) and Diodorus (chap. X, 1, I) who mention it cursorily as an aliment. The latter author gives it the name of κορσαῖον (*korsaion*).

Moreover, we find in the book of Abû Mansûr (p. 211) the mention of the seed of a Nymphaea (*nîlûfar*) which he calls *râs-i-khâdum* (*khâdim* ?) راس خادم, a drug taken for intestinal diseases and menorrhagia. The meaning of the name is

The Arabic name *bashnîn* is probably a corruption of the Coptic ⲡϣⲱϣⲉⲛ = (+the article). IB. speaks of the two varieties of the plant, the *bashnîn khînzîri* بشنين خنزيرى or "pig's lotus" and the "Arabian" lotus. According to SICKENBERGER (*Arzn.*, p. 35) the latter is *Nymphaea coerulea Sav.* There exist several varieties of this plant in India such as the red and pink kinds.

Amongst the later Arabian authors DÂWÛD alone writes a longer paragraph on *bashnîn* He gives a good description of the plant and mentions its medical actions saying they are similar to those of *lînûfar* لينوفر (1), *viz,* tonic, stomachic, aphrodisiac, etc.

L. KEIMER gives many pictures of *Nymphaea Lotus* and *cœrulea* from Ancient Egyptian monuments (2).

The dried flowers of *Nymphaea Lotus L.* are sold in the Cairo drug-bazaars under the names of *bashnîn khanzîrî* بشنين خنزيرى, *arâyis en-Nil* عرايس النيل ("brides of the Nile"), *nîlûfar* نيلوفر and *nûfar* نوفر (*Ducros,* No. 38, p. 21).

SYNONYMS : Gr. : λωτός (*lôtós, Theophr.*), λωτός Αἰγύπτιος (*lôtós Aigyptios, Diosc., Galen*) ; (the bulb) : κόρσιον (*korsion,* Theophr.) ; Lat. : lotus Aegypti ; Ar. : *bashnîn* بشنين, *gulgulân masrî* جلجلان مصرى (ISSA), *nîlûfar, lînûfar* نيلوفر ولينوفر (the fruit) : *habb al-ʿarûs* حب العروس (Modern Egypt). For other names *see* DUCROS (*suprâ*). Pers. : *nîlûfar, nilûfar* نيلوفر ونلوفر (ABÛ MANSÛR, SCHLIMMER) ; Turk. : same name (ʿAVNI, SAMY) and its mutilations like *alufar, nunafer,* etc. (HONIGB., p. 404–5) ; Eng. : white water-lily, Egyptian lotus ; Fr. : nénuphar blanc, lys des étangs, lotus égyptien ; Germ. : Wasserlilie, Seerose, aegyptischer Lotus.

Also *see* following.

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(1) An Egyptian vernacular mutilation of *nîlûfar* نيلوفر, a Persian term for another sort of water-lily (*Nymphaea coerulea Sav.*).

(2) In *Annales du Service des Antiquités d'Egypte,* tôme XXVIII (1928) pp. 38–42, and *Revue de l'Egypte Ancienne* tôme II (1929) pp. 232–253.

baqlasi مصر بقله سى (SAMY); Eng.: peltated water-lily, Indian lotus, nelumbo, Pythagorean bean (the fruit); Fr.: nélumbo, fève d'Egypte (the fruit); Germ.: Indischer Lotus, Padma.

129. Bashnin بشنين, *Egyptian Water-Lily, Lotus* (Nymphacea lotus L.).

(Lecl. No. 292). *See* below No. 130.

DIOSC. IV (113): The Egyptian lotus is a kind of Trigonella (*handaqûqâ* حندقوقا) (1). It is a native of Egypt and grows in the waters of the Nile during the inundation. Its stem is like that of nelumbo and its flower is white, resembling crocus (2). It blooms when the sun rises and shuts when the sun sets, therefore its head sinks under water at sunset and rises to the surface with sunrise. The "head" resembles a large poppy and contains seeds like groats. The Egyptians dry, boil them and make bread from them. It has a root of the shape of a quince which is eaten either boiled or raw and which, when boiled, tastes like the yolk of eggs.

COMMENTARY

The nymphacea *Nymphaea Lotus L.* is a typical Egyptian plant very frequently represented on the monuments since the Old Empire. It is distinguished from the white flowered kind of *Nelumbium* by differences in the blossoms, leaves, fruits and roots. The above description given by DIOSCURIDES is extracted from the much more correct and detailed description of THEOPHRASTUS (IV, chap. 8). He says that the plant is frequent in the Euphrates and that the quince-shaped root, called κόρσιον (*kórsion*) is white inside but changes to the colour of the yolk of eggs when boiled or grilled.

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(1) This phrase is missing from Dioscurides' text; it is full of errors and must be a copyist's interpolation.

(2) In the Arabic text, *sha'ar* شعر, and designates "hair" or "crocus." Dioscurides's text reads κρίνον "lily," and this comparison is the only correct one.

Its nourishing power is slight but good; it causes the growth of flaccid flesh and sound blood, slightly capable of heat or excitement.

COMMENTARY

This drug is the seed of the nymphaeacea *Nelumbium speciosum Willd.* (*Nelumbo nuficera* or *Nymphaea Nelumbo L.*). It is discussed *suprâ* under No. 103 *Awsîn* اوسين (*Aw-sapîd*) which is the white-flowered variety of the (rose-coloured) *Nelumbo*, and under No. 221 where we identified the name of *gubrus* جبرس, with its fruit. *See* below No. 129 and No. 130 (p. 278).

The Greek name has the meaning of "Egyptian bean," and the Arabic one, that of "Coptic bean." The flowers, the leaves and the characteristic conical fruits are frequently represented on monuments and objects of the late periods of Ancient Egypt. The plant was probably imported by the Persians (VIth century B.C.). Its native land seems to be East-India; the flowers called *padma* or *kamala* played an important part in the ceremonies of the Ancient Hindus (DYMOCK 1, 71). The white and the rose-coloured varieties are in existence in India (ROXBURGH, *Flora Indica*, Calcutta, 1874, p. 450) as well as in Egypt, but in the latter land in gardens only. It is said to have disappeared from the Nile Valley as a wild plant since the VIth century A.D.

SYNONYMS: Gr.: κύαμος Αἰγύπτιος (*kýamos Aigyptios*, THEOPH., DIOCS., GALEN); Lat.: faba Aegyptia (Scribonius Largus, Celsus), lotus Aegypti (PLINY); Ar.: *bâqillâ qibtî* باقلى قبطى, *fûl misrî* فول مصرى (1), *lînûfâr* (*nîlûfar*) *hindî* لينوفر (نيلوفر) هندى (DÂWÛD), *gâmisa* جامسة (Egypt, IB., to-day unknown name); Pers.: *baqillâ-i-qibti* باقلى قبطى (ABÛ MANSÛR), *sa'leh bâqilâ* سعله باقلى (SCHLIMMER, p. 402); Turk.: *nîlûfar hindî* ('AVNI); *Misir*

(1) This name given by *Issa* is doubtful; he gives for the two botanical synonyms of the plant (*Nelumbium spec.* and *Nymphaea Nelumbo*) different names, while *Schweinf.* and *Sharaf* left the plant out of their dictionaries.

MANSÛR), *kâlûsak* كالوسك, *kawisk* كوسك, *jirjir* جرجر (*Handjéri*, STEINGASS); Turk.: *baqla* بقله; Eng.: bean, field-bean, garden-bean; Fr.: fève, fève-des-marais; Germ.: Gemeine Bohne, Saubohne.

128. Bâqillâ Qibtî باقلى قبطى, *Egyptian Lotus* (Nelumbium speciosum Willd).

(Lecl. No. 225). *See* our Nos. 103 and 221.

DIOSC. II (106): It grows abundantly in Egypt as well as in Asia and Cilicia, and flourishes in stagnant waters. Its leaves are large like wings (1), its stem is one cubit high and is as thick as a finger. The colour of its flowers is red like that of roses. In their volume they are about the size of a poppy-blossom(2). With the appearance of the leaves there are formed gousses like carobs resembling a hornet's net, and in them are the small beans. Their position rises over the places where there are no grains, like water-bubbles. It (the bean) is called κιβώριον (*kibôrion*) and κιβώτιον (*kibôtion*) (3), *i.e.* "the place in a ball of clay," because those who sow it put it into a lump of clay and throw it in the water. Its root is as thick as canes. It is eaten cooked or raw. It is called *qulqâs* قلقاس (4). This kind of bean is eaten fresh; when it dries it becomes black. It is smaller (5) than the common bean. Its faculty is astringent, and is good for the stomach.

AGRICULTURE: It grows in stagnant waters in Egypt. Its leaves are slightly more variegated than those of the lemon-tree, and its twigs are weak, tortuous and knotty (6). Its root is thicker and (*fol.* 18 *r*) rounder than the roots of the sugar-cane.

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(1) The original text of Diosc. reads "like a πέτασος" (*petasos*), *i.e.* a broad-brimmed hat as worn by Ancient Greek shepherds and hunters.

(2) Diosc. reads "the double of a poppy blossom."

(3) Names of a seed-vessel.

(4) The text of Diosc. reads κολοκάσιον (*kolokásion*); see Commentary

(5) Diosc. says "bigger."

(6) This description is not quite correct, perhaps confused through a copyist's mistake.

with its peel, it checks diarrhoea caused by ulceration in the gut. Young beans are worse to the stomach than old ones.

ANOTHER AUTHOR : Its chyme is not bad and does not cause obstructions, as it produces a good laxation of the bowel. Abuse of its consumption, however, causes heaviness in the head, weakens the intelligence and breeds worry and sorrow. It gives the sensation of general pains all over the body (breaking of bones). The fresh ones, in particular, cause itch.

COMMENTARY

Bâqilâ or *bâqillâ* is the Arabic name of the leguminosa *Vicia faba L.* which is native of Persia and North Africa, but now universally cultivated. It must have grown in Egypt from the earliest period — for samples were found in prehistoric tombs — and until now it is one of the staple articles of diet amongst the poorer classes. It is the commonest article of food in Oriental lands. In the towns of Egypt, *e.g.*, the majority of the population are in the habit of eating beans at breakfast with oil and vinegar in the hollow of a loaf of bread. For this purpose the beans (called *fûl* فول in Egypt and Palestine) are boiled and sold by ambulating dealers, or prepared in special restaurants during the nights in order that the dish may be ready in the morning (1).

SYNONYMS : (*iwry*) ; Cop. : ⲟⲩⲣⲱ, ⲫⲉⲗ ; Gr. : κύαμος ἑλληνικός (*kýamos hellênikos, Diosc.*) or only κύαμος (THEOPH. GALEN) ; Lat. : faba ; Ar. : *bâqilâ, bâqillâ* باقلا, باقلى, *fûl* فول (2), *gummâ* جمى (*Handjéri*, ISSA) ; Pers. : *bâqila* (AB

(1) It is interesting to mention here that the names actually used of the two most commonly eaten dishes of prepared beans in our days, are Ancient Egyptian in origin, used in Arabic through Coptic forms, viz :—

(*ps-iwry*)=ⲡⲉⲥⲟⲩⲣⲱ = بصارة (*bosâra*) meaning "cooked beans" and ⲙⲉⲧⲙ̅ⲙ̅ⲥ مدمس "*medammis*" "buried" in reference to the mode of cooking them. The beans are packed in big earthenware jars (*qidra* قدرة) which are closed and buried in hot ashes and left to cook slowly. There is also the *fitîr medammis* فطيرمدمس "or buried pastry" which is baked in the same way.

(2) This name is Aramaic (*fûlâ*, LOEW II, 501 foll.).

The juice is used for corroding warts and polypi (DUCROS, No. 41, p. 23).

SYNONYMS : Gr. : (modern) ἀνακαρδία (*anakardia*); Lat. (modern) : Semen Anacardii orientalis ; Ar. : *balâdhur* بلاذر, *balader* (mod. Egypt, DÂWÛD, DUCROS), *habb al-fahm* حب الفهم (same), *habb al-qalb* حب القلب (1), *gawz* or *thamr kâbulî* جوز او ثمر كابلى (mod. Egypt, DUCROS) (2); Pers. and Turk. : *balâdhur* and *anâqârdl.iyâ* اناقاردیا ; Eng. : anacardium, marking-nut tree, marsh-nut; Fr. : sémécarpe à larges feuilles, anacarde orientale, noix de marais, fève de Malac (ancient name); Germ. : Ostindischer Tintenbaum, Merkfruchtbaum (the tree), Merknuss, Elefantenlaus, Vogelherz, Malakkanuss (the fruit).

127. Bâqillâ باقلى, (*Garden-*) *Bean* (Vicia faba L.). (Lecl. No. 224).

GALEN VII (XII, 49) : It is moderately drying and laxative. There is little laxative power in the pulp of the bean, but its bark is of a constipating rather than laxative faculty. For this reason some physicians cook the bean with its bark and administer it to those who suffer from dysentery, diarrhoea or vomiting. The bean causes more flatulence than any other food and is one of the most indigestible; but it eases the expectoration of phlegm from the chest and lungs and is useful for hot swellings in the form of compresses. When cooked with pigs' fat it is useful for gout.

THE SAME in his *De Alimentis* (1, I, chap. 19, Kuehn VI, p. 529) : Beans are useful and do not lose the faculty of producing flatulence with cooking, in the same way as barley.

DIOSC. II, (105) : Κύαμος (*Kýamos*). It gives rise to flatulence and causes ugly and false dreams. It increases the flesh of the body, and when cooked in vinegar and water and eaten

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(1) I.e. heart-shaped, cordiform, as are the fruits; translation of the name *anacardia*. For more Arabic names see ISSA, p. 166.

(2) I.e. nut or fruit from Kâbul (Afghânistân).

and woollen clothes (HONIGB. II, 228). From this use the English name "marking-nut" is derived. It never was a medicinal drug in the West, but was so used, and still is, in the East. It was sometimes confused with the Cashew-nut. *Anacardium occidentale L.* which is of American origin, but now cultivated in East India. The active caustic substance is called cardol.

Oriental authors, such as ABU MANSÛR, AL-BÎRÛNÎ and IBN GAZLA, do not give any more information about it than IBN SÎNÂ. AL-IDRÎSÎ (p. 45, No. 88), gives the Indian name *awturfura* (mutilation of Sanskrit *aruskhara?*), a Persian name *jûnûbâs* جونوباس which we are not able to identify, and the Greek name Anacardia, etc. He continues: "It is the fruit of a tree growing in India and China, and it is very common on the Volcano of Sicily." It is astonishing to find that IDRÎSÎ repeated the erroneous statement of IBN 'IMRÂN, as IDRÎSÎ himself lived at the court of the Norman kings of Sicily, in Palermo quite near to the Volcano of Etna. It is hardly thinkable that he confused the marking-nuts with the chestnuts growing abundantly on the flanks of that volcano.

The best Arabian description of the plant and fruit is due to DÂWÛD AL-ANTÂKI. He says (1, p. 164, 1. 10 foll.): "It is the grain of intelligence; its fruit is called Anacardia in Greek. It grows on an Indian tree which is lofty like a walnut-tree, has broad leaves, grey and lanky and of a sharp acrid smell. If a person sleeps under this tree he becomes intoxicated and perhaps lethargic (1). Its fruit is of the size of a chestnut; at its end is a hard stalk. Its bark is blackish and folded over a spongy tissue which is filled with a honey-like fluid; this is its honey. Underneath it is a (second) bark enclosing a kernel which is like an almond and is sweet." He then speaks of its medical properties.

The fruits are sold in our days in the drug-bazaars of Cairo under the name of *balâder* بلادر or *habb el-fahm* حب الفهم

(1) The same is said of several tropical trees, particularly of *Hippomane Mancinella L.* (West Indies, Central America).

almond-shaped and black in colour. In its interior is a white grain resembling an almond, inside a peel which is covered with a reddish-black honey.

Another Author : It is imported from China [1] and grows also in Sicily on the volcano [2].

Ibn Sînâ [3] : Its interior is like that of an almond, sweet and innocuous. Its honey is viscous and smelly. It causes ulcers and swelling, burns the blood and the humours. It is useful for cold diseases and deranged memory, but creates evil thoughts and gives rise to melancholy. It is a poison.

Another Author : The pulp attenuates its harmful effect. Some people eat it with nuts and sugar without it causing them any harm.

COMMENTARY

The marking-nut is the fruit of the anacardiacea *Semecarpus Anacardium L.* Its Persian-Arabic name, *balâdhur*, is derived from Sanscrit *bhallâtaka* ; the Hindustani names of to-day, *bhela* and *bhilawa* (Dymock I, 389) are remainders of this word. It is an East-Indian drug and was known to the Greeks. The great Arab historian Ahmad b. Yahyâ al-Bâlâdhurî احمد بن يحيى البلاذرى (IXth century A.D.), friend and teacher of several Caliphs in Baghdad, was said to have died from the use of marking-nut. This drug was thought to increase the acuity of the mind and intelligence, and one of its Arabic names is *habb al-fahm* حب الفهم, "grains of understanding." A Jewish legend ascribes the greatness and superiority of intelligence of the philosopher and physician Maimonides, to the constant taking of *balâdhur* (Loew I, 203) ! The juice of the flattened cordate nuts when exposed to the air becomes a black corrosive fluid, used for diseases of the skin (ringworm) and as an indelible ink for marking linen

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[1] This is probably a copyist's blunder for "India."

[2] This remark, attributed by IB. to the Tunisian Is-hâq b. 'Imrân, is erroneous all the marking-nut kinds are of tropical origin.

[3] *Qânûn*, Bûlaq Edition, 1 p. 267, 1. 15 foll.

says that it resembles the ginger-fruit. ABÛ MU'ÂDH ابومعاذ (1) says: it has been reported to me that it is the marsh-mallow (*khatmî*) (خطمى); but this is not true. The druggists of this country (2) say that it is *angîr Adâm* انجير ادام which is mentioned before" (3).

IBN GAZLA and IDRÎSÎ simply repeat the sayings of AL-KHÛZÎ (probably through AR-RÂZÎ). Only DÂWÛD, a contemporary of Garcia da Orta, gives a better description of the drug (I, 164), *viz*:—

"*Bul* is the Indian cucumber, a plant which extends its branches and produces long horns containing grains which are softer than Egyptian millet. The fruit is black outside and has a pointed end. It changes colour from white to yellow, is hot and dry in the second degree — its dry compound in the first—is useful for diseases of the phlegm like colics and facial paralysis, for hemorrhoids, winds, deterioration of the humours, and also for impotence. It cures sufferers from yellow bile. Its corrective is coriander, taken in the dose of one *mithqâl*. We do not know of any substitute for it."

SYNONYMS: Ar.: *bul* بل, *qithâ' al-Hind* قثاء الهند, *safargal hindî* سفرجل هندى; Pers.: *bil* بل, *bîl* بيل, *abul* ابل (VULLERS I, 253); Turk.: missing from dictionaries; Eng.: Indian bael, bael-tree, (fruit) Bengal quince; Fr.: bel indien, bela indien; Germ.: Baelbaum, Belfrucht, (*fructus Belae*).

126. Balâdhur بلاذر, *Marking- (Marsh-) nut (-tree)*, (Semecarpus Anacardium L.).

(Lecl. No. 347).

IBN GULGUL: It grows in India and Sind (4). It is a fruit between a pistachio-nut and a chestnut, nearer to the first,

(1) An otherwise unknown Arabic scholar, repeatedly mentioned by BÎRÛNÎ.

(2) I.e. Ghazna (actually Afghanistân) where BÎRÛNÎ lived at the court of the Sultans Mahmûd and Mas'ûd.

(3) We were not able to identify this Persian name, the meaning of which is "Adam's grape."

(4) The lower valley and delta of the river Indus.

COMMENTARY

The rutacea *Aegle marmelos Corr.* is a sacred tree amongst the Hindus, on account of the three-lobed leaves which represent the triad of Brahma, Shiva and Vishnu. It is, as Roxburgh (¹) says, " a pretty large tree, native of the mountainous parts of the coasts of Coromandel." The fruit is called *vilva* (Sanscrit) and *bilva* (Hindi), from which word the Arabic-Persian name *bul* or *bil* is derived. The fruit is " large, almost spherical, smooth, with a hard shell containing from ten to fifteen cells; the cells contain, besides the seeds, a large quantity of an exceedingly tenacious, transparent liquid which becomes very hard on drying but remains transparent." In commerce the article is sold entire or in dried slices (DYMOCK I, 279), having a smooth brown shell, enclosing a hard orange-brown resinous pulp. The diameter of the fruit is 2 to 4 inches and the shape spherical or flattened, ovoid or pyriform.

The drug was known to the Persian and Arabic physicians as far back as the XIth century A.D. (²). The first European physician who described it (under the name of " marmelos de Bengala ") was Garcia da Orta, the Portuguese scholar of the XVIth century. He recommended it as a remedy for dysentery; its principal constituent is mucilage with traces of tannin (³).

BÎRÛNÎ gives a short paragraph containing interesting remarks. After quoting Sahâr Bokht صهار بخت, an early Syriac physician, and AL-KHÛZI he continues :—

" In the book *Chahâr-nâm* (⁴) it is written that *bul* is like the capre-fruit and that it is bitter and astringent. IBN MÂSA

(¹) W. ROXBURGH, *Flora Indica.* Calcutta, 1874, p. 428.

(²) ABU MANSÛR, however, does not mention it.

(³) H. G. GREENISH, *Materia Medica* (fourth edition, London, 1924), p. 100. A picture of the fruit (after Holmes) on p. 99. *Garcia da Orta*, 58th Colloquy.

(⁴) This Persian word, the meaning of which is " Four Names " designates a polyglot dictionary of technical terms in four languages (Greek, Syriac, Persian and Arabic) which was in use in Central Asia about 1000 A.D. Its Syriac title was *pusl.âq shemâhê* "(explanation of names ") and is mentioned by BÎRÛNÎ and IBN ABÎ USAIBI'A.

first degree, dry in the second. The kernel of their fruit is sweet like hazel-nuts." Then follows an exposition of the medical qualities of the belleric myrobalan.

DÂWÛD (I, p. 172) says: "*Balîlag* is the fruit of a tree, not identical with *halîlag* هليلج (Terminalia chebula), though both have the size and shape of an olive — but it is somewhat bigger. Its habitat is the land of India. It is gathered in the month of Tammûz تموز (October) and plucked with the stones but only the pulp is taken. The best kind is the yellow, soft and smooth. It is cold in the second and dry in the third degree. If regularly taken at breakfast with sugar, it sharpens the sight, stops headaches and checks vapours.

SYNONYMS: Gr.: Μυροβάλανοι (*myrobálanoi*); Lat.: myrobalani (both meaning *Moringa aptera Gaertn.*); Ar.: *balîlag* بليلج; Pers.: *balîla* بليله (ABÛ MANSÛR); Turk.: *belile* بليله; Eng.: beleric myrobalans; Fr.: myrobalans bellérics; Germ.: bellerische Myrobalanen (the tree: bellerischer Catappenbaum); Copt.: ⲥⲟⲩⲣⲟⲩ, ⲙⲩⲣⲟⲃⲁⲗⲗⲁⲛⲟⲥ.

125. Bul بل, *Bael-fruit* (Aegle marmelos Corr.).

(Lecl. No. 346).

AL-KHÛZÎ [1]: It is "the Indian cucumber" (*al-qithâ' al-hindî* القثاء الهندى) like the capre cucumber [2]; it is bitter, hot and dry in the second degree, astringent, confining and fortifying the bowels and useful for "cold" diseases.

IBN 'IMRÂN: It is a black pointed grain resembling, in shape, the Egyptian millet grain (*dhura* ذرة). In its interior there is an oleaginous pulp which is used in medicine, and which is imported from India. It is useful in paralysis and for gout; it is also an aphrodisiac.

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[1] Ar-Râzi quotes frequently *al-Khûz* الخوز, probably physicians of the early medical school in Gondê-Shâpûr in Khûzistân (S. W. Persia).

[2] The identification of this name قثاء الكبر is not possible, but the explanation thereof is to be found infrâ in BÎRÛNÎ's article.

triphala, the "three-fruit-compound" (embelic, belleric and chebulic myrobolans) the *balîlag* was in great use with the Indians. Its Persian-Arabic name is derived from Sanscrit *vibhitaka*. Medically, it was very widely used during the Middle Ages, in the Orient as well as in the Occident. It was a reputed remedy for all diseases of the bowels, as well as for eye-diseases. The 'Abbasid Caliphs of Baghdad received part of the tribute from the Province of Khorassân (East Persia) in the form of supplies of myrobalans.

The fruits resemble small plums, are oily, contain a hard stone and are of different forms and sizes. The young fruits purge, and the ripe ones are astringent, because they contain a great amount of tannic acid (from 25 to 46 %), and this is the only reason of their use in medicine. In our times they are used only for tanning. A century ago they were in use as an official drug under the name of *Myrobalani bellericae*. They are missing in DUCROS' enumeration of Cairo bazaar-drugs (1).

Among the Arabic physicians, IBN GAZLA does not give an original account, and BÎRÛNÎ is very brief. All he says is that the belleric myrobalans are more round in shape, the chebulic more oblong.

Much more detailed, however, is IDRÎSI (p. 61): "*Balîlag* is an Arabicised name, not mentioned and omitted by Dioscurides. In Indian it is called *ansawâli* انسوالى (?), in Persian *balîlah* بليله, ... (2) and in Frankish *myrobalani*. It is a plant which grows in the first and second climates. It is a tree with stem and branches; its leaves resemble those of the plum-tree. It has fruits like capers. When they are green, they are kneaded, pressed and dried. Their taste is astringent, resembling that of embelic myrobalans. They are cold in the

(1) Their use seems to have been early abandoned in Europe, as Pomet writes in his *History of Drugs* (Eng. translation, London, 1712, vol. I, p. 142): "It is of little importance to draw your attention to their choice, since they are good for little or nothing."

(2) Two gaps in the MS.

SYNONYMS : Ar. : *baqqam* بقم, *ʿandam* عندم ; Pers. : *baqqam*, *bakam* بکم, *dâr-parniyân* دار پرنیان, *baqqam-i-qirmiz* بقم قرمز (*Schlimmer*), *dâr-bhâl* داربهال (*Handjéri*) (1) ; Turk. : *baqâm* بقام (*Handjéri*, *Samy*) ; Eng. : sappan-wood, sappan, buckum-wood, (Brazil-wood), Indian dye-wood ; Fr. : bois de sapan, bois de brésil, brésillet des Indes ; Germ. : Sappanholz, indisches Brasilholz, Rotholz.

124. Balîlag بليلج, *Beleric Myrobalan* (Terminalia bellerica Roxb).

(Lecl. No. 338).

ISHÂQ B. ʿIMRÂN : It is an Indian green fruit ; when compressed and dried, it becomes yellow ; its taste is bitter and astringent.

ANOTHER : It resembles the black myrobalan (2), has a smooth peel, is soft, and its astringency is palatable though with some bitterness. It is a mild cathartic for black bile.

IBN SÎNÂ : No other drug is more tanning to the stomach. It may confine the bowels, but it is usually a purgative.

AL-MAGÛSÎ (3) : Its faculty is weaker than that of the embelic myrobalan (*amlag* املج, Phyllantus emblica L.).

COMMENTARY

Belleric myrobalans are the fruit of the combretacea *Terminalia bellerica Roxb.*, an Indian drug which was unknown to the early Greek physicians, but later became known to the Byzantines. The μυροβάλανος (*myrobálanos*) which was imported from the East was then confused with the βάλανος μυρεψική (*bálanos myrepsikê*, Moringa pterygosperma Gaertn.), the ben-oil-plant (*see* above No. 118). As a constituent of the

(1) This name is probably Hindustâni ("arrow-wood").

(2) IB. (I, 110, line 9) : "the yellow myrobalan."

(3) *See Introduction*, p. 17, No. 2 f.

the colcocynths, like squirting cucumbers (*'alqam* علقم); they are not edible. They plant it (the sappan-tree) and do not cut it until the arrival of the customer. The stock of merchandise is given in exchange for (human) weight, which means that the buyer chooses three men at will and the salesman two. Then they cling all together to the end of the Roman balance (*qarastûn* قرسطون) until the other end, to which is suspended the sappan-wood, is raised. The weight raised by them is the one needed."

He then writes about different kinds of Indian weights and continues: —

" As-Sarî ar-Raffâ السرى الرفا says: *Al-baqqam* is *al-'andam* العندم, but the *'andam*, which is well-known to the druggists, is the dragon-tree (*dam al-akhawain* دم الأخوين, Dracaena Draco L.) known as *al-qâtir* القاطر. It is no wonder that the juice which flows from it is used as drops for the eye."

The above sentence is quoted from Abû Hanîfa. Bîrûnî then continues:—

" The inhabitants of the (Indian) coasts say that the sappan-wood has two colours: one kind is imported from Saffîn صفين. (1) and is known as "black-backed," and the other is imported from Lâmrî and is known as "white-backed;" this gives a purer red (dye-stuff)."

Idrîsî (I, p. 66) gives the Indian name *kuhûmâ* كهوما, which we cannot find mentioned anywhere. But Dâwûd (I, 158) cites the same name under the form *al-kahram* الكهرم, next to the term *bîkhumâr* بيخمار. He continues: "Its fruits are round, greenish at first, later on red, and when ripe become black and sweet; they are eaten like grapes. If macerated for two or three nights they swell, and their blackness is lightened".

For the origin of the European name *sappan*, *see Yule*, Hobson-Jobson (p. 794); it is derived from Malay *sapang*.

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(1) This may be a mis-spelling for *Sanf* صنف = Champa, formerly a great kingdom in Indo-China (Cochinchina).

IBN RIDWÂN : It brings about the cicatrization of the wounds, dries ulcers (*fol.* 17 *v.*) and checks the flow of blood.

COMMENTARY

The leguminosa *Caesalpinia Sappan L.* is a tropical tree indigenous to India and the Malay Archipelago. It was unknown to the Greeks. Its Persian and Arabic name *baqqam* is derived from Sanscript *pattanga*. For details concerning this orange-red wood and its use, *see Dymock* (I, 500–1). Although its habitat is in India, it was formerly called Brazil-wood, and as an official drug *Lignum Brasile* (1).

Among Islamic authors, it was — needless to say — only AL-BÎRÛNI who wrote the most interesting paragraph on sappan-wood. He begins thus: "*Baqqam*, in Persian *dâr-barniyân* داربرنيان (2), in Khwârizmian (3) *banjank* بنجنك. Hamza (4) says (*baqqam*) is the Arabicised name *fakam* فكم, *i.e dâr-barniyân*. Its origin is from the Island of Lâmrî (5) ; it is imported thence together with bamboo (*khaizurân* خيزران). Its leaves are like those of the rue. It carries fruits in the manner of the carob-trees or

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(1) This name is not derived from the country, Brazil; it was used in Europe in the Middle Ages, long before the discovery of America ! It is derived from the root *braezelen* (Germ.), *brazilh* (Provençal), *brasil* (Spanish), designating the red colour of the fire for grilling. It was transferred to the red wood, and later on to the newly discovered land which furnished, after East India, the greatest amount of dye-woods (Littré, *Dictionnaire de la langue française*, vol. I, Paris, 1873, p. 415). Compare also W. HEYD, *Histoire du Commerce du Levant au Moyen Age*, Stuttgart, 1878, vol. II, p. 587 fol. So, on the contrary, the name of the land Brazil is derived from that of the wood. But to-day the name of Brazil-wood is mostly applied to the heart-wood of *Caesalpinia Brasiliensis L.*

(2) *Dâr* in Persian, is "wood," *parniyân* a fine China silk (moiré) ; The sappan-wood has its watered design.

(3) This was AL-BÎRÛNI's mother tongue, a nearly unknown Iranian dialect.

(4) HAMZA AL-ISFAHÂNI, a famous Persian historian and philologist (d. ab. 355 A.H. 966 A.D) ; he was wont to discuss Persian and Indian words that found their way into Arabic.

(5) This island is mentioned, more than five centuries after AL-BÎRÛNI, by Abu'l Fadl ابو الفضل, minister of the Mogol Emperor Akbar, in his famous "Directory of Akbar's Empire" (*The Ain-i-Akbari* by *Abu-l-Fazl 'Allami*, translated by Blochmann and Jarrett, vol. III, Calcutta, 1894, p. 49) : "Island of Lâmrî (long. 130°, lat. 9°), of India, produces the wood *baqqam*." According to G. Ferrand, the name should be spelt *Lâmuri* and is one of the old names of Sumatra. It is evident, from the distances given by the Arabic pilot Sulaimân al-Mahrî (XVth century.) that Lâmurî corresponds to the eastern part of Achin, the most northern part of Sumatra (G. FERRAND, *L'Empire Sumatranais de Crivijaya*, Paris, 1922, pp. 14, 19. 111, etc.).

IBN GULGUL: The tree and its leaves are like myrtle; so are its grains. Its wood is yellow, hard and astringent; it confines the bowels.

COMMENTARY

The name *baqs* is derived from Greek *pyxos*. It is the buxacea *Buxus sempervirens L.*, well known to *Theophrastus* who mentions it more than twenty times in his *Enquiry into Plants*. Since Antiquity the wood was much in use for the manufacture of boxes ([1]) and cups. Apart from IB., most of the Arabic authors give no interesting reference to this plant or to its medical uses. *Dâwûd* (I, 158) says that the best kind has very yellow wood and grows in "his land" (Antioch) along the coasts of Asia Minor. He also says that it is good for ulcers of the mouth and that the use of a comb manufactured from box-wood strengthens the hair. Some years ago the leaves were used as an official drug (*vide* Pharmacopée française, official edition, Paris 1866, p. 40).

SYNONYMS: Gr.: πύξος (*pyxos*); Lat.: buxus; Ar.: *baqs* بقس; Pers.: *shimshâd* شمشاد (the tree), *shimshâr* شمشار (the springs) ([2]); Turk.: *shemshir* شمشير (*'Avni*), *shemshir agaji* جمشير اغاجى (*Samy*), *jemshir* جمشير (*Handjéri*); box-tree, box; Fr.: buis; Germ.: Buchsbaum.

123. BAQQAM بقم, *Sappan-wood*, (Caesalpinia Sappan L.). (Lecl. No. 314).

ABÛ HANÎFA: It is the wood of a lofty tree, the leaves of which are like those of the green almond-tree. Its stem and branches are red. It grows in India and East Africa (*Zang* زنج). In decoction it is used as a dye.

([1]) The name "box" is perhaps derived from *pyxis-buxus*.

([2]) It is evident that these two similar names are often confounded, in MSS. and prints. We follow VULLERS, STEINGASS, HANDJÉRI, TÂG (IV, 111), LOEW (I, 318), SCHLIMMER (p. 95) and others.

(βάλανοι) (Sardianai (bâlanoi) [1] and λόπιμα (*lópima*) [2] and κασταvίαι (*kastaniai*) [3] and μότα (*mota*) [4] and "acorns of the planet Jupiter [5]," *i.e.* the chestnut (*shâh-ballût* شاه بلوط) are also astringent like the acorn.

COMMENTARY

Ballût بلوط is the Arabic name for different kinds of oak-trees and for their fruit (acorn). The Greeks (*Theophrastus*) knew in their time about a dozen different species and varieties of oak-tree. They also understood the astringent action of their bark and fruit. The species which agrees best, according to Fraas, with Dioscurides' description is the holm or holly-oak *Quercus ilex L.* (synonym *Q. ballota Desf.*).

AL-BÎRÛNÎ very often quotes Greek authors, among others Theophrastus and Plato. IDRÎSÎ (p. 46) gives several Persian and Syriac names which are otherwise unknown.

SYNONYMS: Gr.: δρῦς (*drys*), φηγός (*phêgós*), πρῖνος (*prînos*); Lat.: quercus, ilex; Ar.: *ballût* بلوط, *darâm* درام (Syria), *'afsînag* عفسينج ('Irâq, *Dâwûd*), *thamarat al-fu'âd* ثمرة الفؤاد (Egypt, *Dâwûd*); Pers.: *sindiyân* سنديان; Turk.: *meshe agaji* ميشه اغاجى (*'Avni*), *pelid agaji* پليد أغاجى (*Handjéri*); Eng.: evergreen oak, holm, holly-oak, ballota-oak; Fr.: chêne vert, yeuse, ballote; Germ.: Steineiche.

122. Baqs بقس, Box-tree (*Buxus sempervirens L.*). (Lecl. No. 315).

Its name in Syria is *shimshâd* شمشاد, and in Greek πυξίς (*pyxis*) [6].

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[1] The Spanish chestnut (of Castanea vesca Gaert). All the following are different names for the chestnut.

[2] I.e. "easily peeled off" said of nuts which have a skin and not a shell.

[3] I.e. chestnuts.

[4] Μοτόν (*motón*) is lint for dressing wounds.

[5] This is the translation of the Greek name Διὸς βάλανοι (*Diòs Bálanoi*) "acorns of Zeus."

[6] This is an error; the Greek name of the box-tree or box-wood is πύξος (*pyxos*); *pyxis* is a box made of box-wood.

names, and *khinjak* خنجك (*Vullers* I, 726); the gum: *mâst* ماست (ABÛ MANSÛR); Turk.: *termentin, aghaji* ترمنتين أغاجى (*Avni*, p. 595), *shajer-i-butm* شجر بطم (*Samy*) (1); Eng.: (Chio) terpentine-tree; Fr.: térébinthe; Germ.: Terebinthe, Terpentin-Pistazie.

121. Ballût بلوط *Evergreen Oak* (*Quercus* ilex L.) (Lecl. No. 339).

GALEN XI (XI, 865): All the parts of this tree possess an astringent faculty; but the layer resembling a membrane between the bark and the wood is the most strongly astringent. It is the same with the innermost layer of the bark of the fruit, *i.e.* the one beneath the bark of the acorn enveloping the pulp, which is called the aril (2). It cures haemoptysis and dysentery. It is mostly used in the form of a decoction. Still more strongly astringent than this latter are the plants called φηγός (*phegós*) (3) and πρῖνος (*prînos*) (4) which are allied to the species of oak; but we are justified in affirming that they are different in kind.

He says in the *Book on Aliments* (GALEN VI, 621): The acorn is very nourishing; bread was made from it. In former times people lived on it alone. But its nutritious part is heavy, thick and difficult to digest; chestnuts (*shâh-ballût* شاه بلوط) are better.

DIOSC. I, (106): Δρῦς (*drys*); a decoction from its bark, drunk with cow-milk, is useful for the poisons called τοξικόν (*toxikón*) (5) and ἐφήμερον (*ephêmeron*)(6). The species of oak-tree called πρῖνος, (*prinos*) is stronger and loftier than the others. It blackens the hair. The tree called φηγός (*phegós*) equally belongs to the same species. Those which are called Σαρδιαναί

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(1) IDRÎSÎ gives as a Turkish name *benefshe* بنفشه; but this word means "violet."

(2) In the text the Persian word *jaft* جفت; it designates the inner rind of a fruit.

(3) Perhaps *Quercus esculus L.*

(4) Probably *Quercus ilex var. Suber L.*

(5) A poison for smearing arrows.

(6) The meadow saffron *Colchicum parnassicum* or some other kind of *Colchicum*.

Among the Arabic medical writers we quote AL-IDRÎSÎ because his paragraph on *butm* is particularly detailed (Istanbûl MS., p. 67 foll) whereas the corresponding section in al-Bîrûnî's drug-book is missing owing to a gap in the Brussa MS.

At first AL-IDRÎSÎ gives many synonyms for the plant — mostly mutilated by the copyist — in Arabic, Greek, Syriac, Berber, Persian, Indian and Turkish. He then continues: "The turpentine-tree is a well-known tree resembling the one called *ad-darw* الضرو (1). The colour of its leaves is very green and its edible grains resemble those of *ad-darw*, except that they are oblong and green. This tree has a resin exactly resembling the mastich gum, except that this latter changes its colour. The two resins, mastich and turpentine, are as similar in their characters as their trees are." AL-IDRÎSÎ then speaks very lengthily about the medical uses of the turpentine resin and fruit.

DUCROS (p. 80 foll). describes the turpentine resin (*samgh al-butm* صمغ البطم) as a bazaar-drug in Cairo. He omits the fruit (*habba khadrâ'* حبة خضراء) which is still sold in the drug-bazaars of Cairo. *Terebinthina Chia* or *Cypria* was formerly an official drug in Europe.

SYNONYMS: Egypt.: [hieroglyphs] *sntr* ("resin"); Heb.: בטם *bôtem*, *botna*; *êla*; Copt.: CONTE (resin) (?); Gr.: τέρμινθος, (*términthos*); τερέβινθος; Lat.: terebinthus (Pliny); Ar.: the tree *butm* بطم, *darw* ضرو, *betûm* بطوم (Maghrib); other names; see *Issa*, p. 141. The fruit: *habba khadrâ'* حبة خضراء, *bizr al-butm* بزر البطم, *qudâma* قدامة (Arabia, *Loew* 1, 192, 195 after Musil); the resin: *'ilk al-butm* علك البطم, *samgh al-butm* صمغ البطم(2); Pers.: *butm*, *dirakht-i-sakkiz* درخت سكز (ABÛ MANSÛR), *kamkâm* كمكام (*Vullers* II, 887), *bushka* بشكه (?IDRÎSÎ); the fruit: Arabic

(1) Probably a South-Arabian variety of Pistacia (perhaps P. Kinjuk Stokes ?). *See Lane*, p. 1790.

(2) The name *'ilk al-anbât* علك الأنباط, *i.e.* resin of the Nabataens, given by *Issa*, p. 141, refers to the resin of the pistachio-tree (*Pistacia vera L.*).

Galen VIII (XIII, 137) : In the inner bark (*lihâ'* لحاء), the fruits and leaves of this tree there is some astringent, drying, heating and diuretic action, useful to the spleen (1).

COMMENTARY

The ancient turpentine-tree, the anacardiacea (rhoidea) *Pistacia Terebinthus L.*, is a tree of the Mediterranean regions, very well-known from early times. It furnishes the " turpentine of Chios," the best and most expensive kind of turpentine, resin. The name turpentine was applied, later on, to the resins of different kinds of coniferae (2). In March 1932, lumps of this resin were discovered in a prehistoric site of Ma'âdî near Cairo, by Professors 'Âmir and Menghin (Egyptian University).

Theophrastus (IX, 2, 2) speaks about the different kinds of turpentine and mentions the turpentine-tree frequently.

A grove of turpentine-trees at Mamrê near Hebron in Palestine was shown to visitors in Roman times as the alleged place of Abraham's sacrifice.

The name is old Semitic : Assyrian *butm*, Aramaic *butmâtâ* בטמתא (Fraenkel, *Die aramaeischen Fremdwörter im Arabischem*, Leyden, 1886, p. 139), Hebrew *bôtem*, but also Ass. *butnu*, Hebr. *botnâ*. Other Hebrew names are *êlôn*, *êlim*, *êla*. All the Arab physicians know this tree, its fruits and resin. The pustules, gall-nuts which are provoked by the sting of insects (3) are not mentioned by the Arab authors, although they are still to-day in use (*e.g.* in Turkistân) as an astringent and anti-spasmodic remedy.

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(1) IB. gives a quotation from *al-Ghâfiqî* concerning the action of turpentine on the hair. This passage must have been omitted by Barhebraeus (*see Lecl.* I, p. 234–5).

(2) Greenish, *A text Book of Materia Medica.* 4th edition (London, 1924) p. 467 foll.

(3) According to Dragendorff (p. 395) Pemphigus corniculatus, Aphis pistacea (a tree-louse) and others. Pliny (XIII, 6) observed the pustules as well as the insects, and Dymock (I, p. 378) remarks that pistachio-pustules were sold in the Bombay market about 1890.

ABÛ MANSÛR MUWAFFAQ (ACHUNDOW, pp. 166 & 353) calls the drug *bunk-i-mukhayyar* بنك مخير and speaks only about its alleged medical qualities.

LECLERC and SICKENBERGER were not able to identify the drug. Its name is entirely unknown to-day to the bazaar-druggists of Cairo. SCHWEINFURTH's book on South-Arabian plant-names equally fails to give any information about it.

The Greek names *naskaphton* and *narkaphton* are probably of Indian origin. We tried to identify them with the names given in Indian medical literature. *Nirvisha* (DYMOCK III, 559) for example, is a root possessing properties akin to those of *narkaphton*; but it refers to a cyperacea, *Killingia triceps. L.* The bark or fibres of the cocoa-nut tree (*naral-ka-pi*) could also be quoted. For the Arab-Persian name *bunk*, there is an equivalent used in the modern Bengali name *bangka*, which designs the greyish brown bark of an Indian tree, the rubiacea *Adina cordifolia Hook.* (DYMOCK II, 171). *Anthocephalus Cadamba Miq.* (wild cinchona) produces equally a bark, which is used as tonic and febrifuge in the same manner as *bunk*.

120. Butm بطم, *Turpentine-tree* (Pistacia Terebinthus L.). (LECL. No. 302).

AGRICULTURE: It grows in the mountains between stones and rocks; its branches are blackish-green and its grains white (1).

DIOSC. I, (71): Τέρμινθος (*términthos*) is the tree of "the green grain" (*al-habba al-khadrâ'* الحبة الخضراء). Its faculty is like that of the mastich-tree and its gum like mastich-gum. Its oil is manufactured in the same manner as laurel-oil and its wine like myrtle-wine. It is astringent and heating (2). Its fruit is bad for the stomach. It is heating, diuretic and aphrodisiac. Taken with vinegar it is good for the bite of the tarantula (*rutailâ'* رتيلاء).

(1) They are light-green, and so reads IB. (I, 98).

(2) The foregoing passage is missing from the editions of DIOSCURIDES.

kind, however, comes from the Gold-land (1), and it is said to be the rotten wood of the sandal-tree. The best kind is the yellow one which is easily crumbled. The first kind is called *'Umânî* عمانى (2) which is said to be met with in the land *Mukrân* "مكران" (3).

The second record is that of IDRÎSÎ in his also unprinted Pharmacology (MS. Fâtih Mosque, No. 3610, p. 69, No. 151).

"*Bunk* is an Indian word. It is the name of an aromatic. DIOSCURIDES omitted to mention it (4). It is called in Persian *awsûtûfûn* اوسوطوفون (5) and in Syriac . . . . . . (6). It is the bark of a tree brought from India as well as from the Yemen. It is hot and dry in the first degree and repairs, if used as fumigations, a uterus that has become dessicated. It is used as fumigations in order to bring out its aromatic smell and is sold as one of the "great" remedies. The druggists know it well." Then follows a literal quotation from IBN SÎNÂ without any mention of his name.

IBN AL-FAQÎH AL-HAMADHÂNÎ (902 A.D.) mentions the drug in his geographical treatise (7). Speaking (p. 36, line 16) of the inhabitants of al-Yemen, he says: "They have *al-bunk* which is said to come from the wood of *umm ghailân* (Acacia arabica)."

YÛSUF IBN 'UMAR, the Sultan of Yeman, from whom we would have expected better information, unfortunately disappointed us as he did not even mention the name of the drug in his book.

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(1) *Ard adh-Dhahab* ارض الذهب; probably meaning the coast of East Africa.

(2) I.e. from *'Umân* عمان (Omân) in South-east Arabia.

(3) To-day Balûchistân.

(4) This statement is not correct as seen from al-Ghâfiqî's paragraph.

(5) We suppose that this is a mutilation of *naskaphton*.

(6) A blank hiatus left by the copyist.

(7) كتاب البلدان لابى بكر احمد بن محمد الهمذانى المعروف بابن الفقيه (Bibliotheca Geographorum Arabicorum vol. V) ed. M. J. DE GOEJE, Leyden, 1885.

see No. 95, p. 200) in the Yemen. It is astringent, cold and dry, and when applied as compresses, it strengthens the organs and stops the diaphoresis.

IBN SÎNÂ (1): The best kind is the white and light which has an agreeable smell; the white heavy kind is bad. It is hot and dry in the first degree, good for the stomach, cleanses the skin and removes the smell of the depilatory paste (*nûra* نورة).

AL-MAGÛSÎ (2): It is rarefying, fortifies the stomach and liver when they are cold (*i.e.* suffering from a "cold" disease), and is used as compresses and a potion.

COMMENTARY

Here, Barhebraeus has probably omitted a quotation from ABÛ HANÎFA AD-DÎNAWARÎ, a passage which is of great interest and which has been preserved in the Arabic text of IB. (vol. I, p. 120). We give its translation from the Arabic text:—

ABÛ HANÎFA: "The *bunk* is mostly met with in the Yemen in *Wâdî 'Awsaja* وادى عوسجة, that is a valley separating Zabîd from 'Aththar" (3).

There is not a single printed Arabic pharmacology that gives any satisfactory information about this mysterious drug. Research in unpublished MSS. gave the two following citations:

AL-BÎRÛNÎ says in his drug-book: *Bunk*: Yahyâ (ibn Mâsawaih) and al-Khushakî الخشكى say: "It is imported from the Yemen and it is said that it grows from the root of the acacia-tree (*umm ghailân* أم غيلان) and that, when the bark is removed, it falls off from the trunk of the trees. It resembles the interior of the crumbling palm-branch-stumps. The choicest

(1) Partly quoted from the *Qânûn* (Bûlâq edition, vol. I, p. 270).

(2) The famous Persian physician 'ALÎ IBN AL-'ABBÂS († 994 A.D.), author of the *Kâmil' as-Sinâ'a* كامل الصناعة (printed at Bûlâq, 1294 A.H.).

(3) Zabîd زبيد is a well-known town in the Yemen; the name of '*Aththar* or '*Athr* عثر is uncertain and is corrected by us from '*Atar* عتر according to Yâqût's Geographical Dictionary (ed. WUESTENFELD, vol. III, p. 615). *See* also IBN KHORDÂDBEH, *Liber viarum et regnorum*, ed. DE GOEJE (Leyden, 1889), p. 192.

especially in the valleys surrounding the Dead Sea. SICKENBERGER (*Plantes*, p. 26) proved against LECLERC that it was Moringa arabica (M. aptera Gaertn.) which corresponded to the descriptions of Diosc. and Abû Hanîfa. HONIGBERGER (II, 311) calls it *Moringa Sohangna* and speaks of the great ignorance about the drug in India, where several totally different kinds of nuts are equally called *habb al-bân*.

The ben-oil which is an official drug (*Oleum behen* or *balaninum*) is extracted from another kind, *Moringa pterygosperma Gaertn.* which has its habitat mostly in India and the Indian Archipelago.

SYNONYMS: Gr.: Βάλανος μυρεψική (*bâlanos myrepsikê*); Lat.: glans unguentaria, glandulae aromaticae (Medieval term, translated from the Greek); Ar.: *bân* بان, *yasar* يسر (1); the fruit *habb-al-bân* حب البان, *habba ghâliya* حبة غالية, *goz el-bân* جوز البان (both terms in Modern Egypt), *fustuq al-bân* فستق البان (*Issa*); Pers.: *bân* بان; the fruit *tukhm-i-ghâliya* تخم غاليه (VULLERS I, 184), *dânayi-bân* دانه بان (ACHUNDOW, p. 3497); Turk.: like Arabic; Eng.: Horse-radish-tree, ben-oil plant, moringa; Fr.: arbre, noix de ben; Germ.: Behenbaum, Behennuss.

119. Bunk بنك. Undetermined.

(Lecl. No. 359).

DIOSC I, (23): Νάσκαφθον (*náskaphthon*), also called Νάρκαφθον (*nárkaphthon*) is imported from India. It is a bark like that of the mulberry-tree and is used for fumigations on account of its aromatic smell and on account of its success in the treatment of obstructions of the orifice of the uterus.

IBN RIDWÂN: A remedy of aromatic smell. It is said to be the bark of the root of the acacia-tree (*umm ghailân* أم غيلان,

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(1) This may be a continuation of the Ancient Egyptian Semitic name for the Oriental tamarisk [hieroglyphs] *isr* Copt. οcι (Arabic *athl* أثل); see No. 6 (pp. 69–70).

Vigna sinensis D.C.), only excessively green. It contains the grains. When it is ripe it bursts and the grains are scattered. They are white and gray like pistachio-nuts, but shorter and of more brownish colour. They are split like the bark of pistachio-nuts, and from them is extracted ben-oil. Its fruit is also called *ash-shû'* الشوع ; it is quadrangular and grows more in droughty arid places. If desired to be cooked, it is contused on a hard stone, sifted until its bark is separated and then ground and pressed. It is rich in oil.

Diosc. IV, (157) : Βάλανος μυρεψική (*bálanos myrepsikê*) [1]. It is the fruit resembling that of tamarisk (*tarfâ'* طرفاء). When pressed like bitter almonds it discharges a juice which is used instead of oil in high-class perfumes. This tree grows in the land of the Ethiopians, in Egypt and Arabia as well as in the place called Petra in Palestine. The best kind of this fruit is the fresh one, full and easy to peel. One drachm of the pounded (drug) drunk with vinegar water relieves the spleen. It is used as a cataplasm for gout and removes scabs when used with vinegar.

Galen VI (XI, 845) : This is a remedy brought to us from the Arabs. The perfumers use the expressed juice of its pulp (interior). One *mithqâl* of its juice with honey-water is emetic and cathartic ; with vinegar it cleanses xanthelasma (*kalaf* كلف) [2] and leucodermia (*bahaq* بهق) [3] (*fol.* 17 *r.*), freckles (*namash* نمش), psoriasis (saʿfa سعفة) and pustules (*buthûr* بثور). The peeled-off shell of the ben-nuts is very astringent.

COMMENTARY

The ben-nut is the fruit of a moringacea. This species consists of three kinds only. The nuts sold in the Cairo bazaars (Ducros, p. 39) are those of *Moringa arabica Pers.*, a small tree of dry character which grows in Arabia and Palestine,

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[1] The meaning of this name is "aromatic acorn."

[2] The word *kalaf* designates also freckles.

[3] The original meaning is "white lepra," Greek ἀλφός (alphós), perhaps *vitiligo*.

equally missing from *Ducros*' enumeration of modern Cairo bazaar-drugs. *Sickenberger* (*Arzn.*, p. 41) saw its fruit in the bazaars.

Al-Bîrûnî, who again, is the most original of Islamic writers quotes in his lengthy paragraph on the balm of Gilead many old and partly unknown Syrian and Arabic physicians, *e.g.* Nicolaus, Mâsargawaih, Mâsawaih, Ayyûb of Edessa, ar-Râzî, al-Khatîbî الخطيبي, ar-Rasâ'ilî الرسائلي, etc. He treats in a very detailed manner the differences between the true balm and its substitutes.

As an officinal drug it is called *Balsamum judaicum*, *gilead-ense*, or *Opobalsamum verum*.

Synonyms: Egypt.: [hieroglyphs] בשאם tree [hieroglyphs] oil; Copt.: ⲃⲱⲕⲕⲉ? ὀποϐαλσάμον; Heb.: *bêshem*, *bâsham*; Syriac: *appûrsâma*, Gr.: ϐάλσαμον (*bâlsamon*, the tree), ὀποϐάλσαμον (*opobálsamon*; the resin), ξυλοϐάλσαμον (*xylobálsamon*, the wood); Lat.: *balsămum*; Ar.: *balasân* بلسان (the resin), *bâsham* بشام (the tree), *balsam* بلسم, *bakâ'* بكاء, (IB. No. 335); Pers.: *balasân-i-makkî* بلسان مكى (*Schlimmer*), *balsam Isrâ'îl* بلسم اسرائيل (*Naficy*); Turk.: *belsem* بلسم, *pelesenk* بلسنك (*Avni*, p. 74), *ka'be pelesengi* (1) كعبة بلسنكى; Eng.: balm of Gilead, balsam of Mecca; Fr.: baume de Gilead, de la Mecque, de Judée, baume egyptien; Germ.: Mekkabalsam.

118. Bân بان, *Ben-Nut-Tree* (Moringa arabica Pers.). (Lecl. No. 226).

Abû Hanîfa: *Al-bân* البان is a tree which grows in height like the Oriental tamarisk (*athl* أثل). Its leaves are white and pinnate (*hadab* هدب) like those of the tamarisk. Its wood is hollow, soft and light and its branches are green. Its pinnate leaves grow on the shoot which is long and very green. Its fruit is like the pod of *lûbiyâ* لوبيا (Dolichos Lubia Forsk. or

(1) I.e. "balsam of the Kaaba."

had about forty of them freshly imported from Arabia. At the same time the Arabian commerce in drugs was in its decline so that Pope Pius V allowed, from 1571, the use of Peruvian balsam instead of Gilead-balm, in the preparation of *chrism* (Holy Oil) for the ecclesiastical rites.

Prosper Alpinus, in 1582, succeeded in growing the balsam-plant from seeds procured in Cairo, while his pupil, Johann Vesling, professor at Padua (¹), saw (about 1600) balsam-plants in some Italian gardens. SCHWEINFURTH (²), however, could not cultivate small balsam-plants in Cairo — the plants being imported from Arabia. They all perished during the cold winter nights of northern Egypt.

About the Hebrew and Aramaic names of the balm and the balm-tree *see* Löw (I, p. 299–304).

THEOPHRASTUS (IX, 6) said that the balm-resin was procured by incisions made in the tree at the time of the appearance of the Dog Star (Sirius). But the quantity collected in this manner was insignificant; more preferable is the process of our days which is by boiling the pounded ends of the twigs with water. Its trade is *via* Bombay. The Gilead-balm is a mixture of ethereal oil and a resin composed of resinous acids or tannates and resin.

The pretended numerous medical qualities of the balm were described by many medieval Arabic physicians. It was believed to cure nearly all the diseases, from plegias to cataract; and from calculi of the kidneys to gastritis. Modern Orientals still believe in its aphrodisiac action (*Sickenb. Arzn.*, p. 41 ; Tichomirow quoted by *Achundow*, p. 352).

It is interesting to mention that Yûsuf b. ʿUmar, Sultan of Yemen, in whose land the balm-tree grew did not give any description of it but only quotations from IB. Balsam is

(¹) Appendix to PROSPERI ALPINI *De Plantis Aegypti*, Lugd., 1735.

(²) G. SCHWEINFURTH, *Über Balsam und Myrrhe.* Berichte der pharmaceut. Gesellsch Berlin, 1893.

same year. Thus its cultivation was renewed. This fact was considered as one of the glorious events of the reign of al-Malik al-Ashraf Qânsûh al-Ghûrî الملك الأشرف قانصوه الغورى (1)."

Ibn Iyâs copied the passage concerning the use of the balsam-oil in *chrism* from the Egyptian historian al-Maqrîzî (d. 1441). The great veneration with which this tree and its oil were held, was due to the legend that the B. V. Mary with Jesus rested near the Well of Heliopolis on their arrival to Egypt. The balsam was, therefore, considered as a product of the Holy Well. The allusion in the Song of Solomon, (IV : 14) refers probably to the balm of Gilead. The Jewish historian Josephus refers to the legend of the Queen of Sheba, who brought some shoots of the balm-tree as a gift to King Solomon. We know that the balm-tree was cultivated in the gardens of Syria and Palestine according to the authority of Greek and Roman writers. The famous Greek physician Galen says (ed. Kuehn, vol. XIV, p. 7) that he brought back with him balm from these two lands. In Egypt the balm-tree was cultivated since the early Islamic period and perhaps earlier, in a single garden at Matarîya المطرية, a northern suburb of Cairo situated on the site of the ancient town *"On"* (Heliopolis). Beginning with *Mâsargawaih (see Introduction,* p. 10) down to the XVth century all Arabic writers spoke of this garden balm-tree. European travellers referred to it as one of the wonders of Egypt. The French naturalist Pierre Belon described the tiny plants which he saw twice (BELON DU MANS, *Les Observations de plusieurs singularités, etc.* Paris, 1554, p. 110–111). Prospero Alpino, the celebrated Venetian physician who lived in Egypt from 1580 to 1584, devoted a whole treatise to the balm (PROSPERI ALPINI *De Balsamo Dialogus,* Venice, 1591). According to him the balm-trees in the Matarîya garden had perished at the end of the XVIth century, although the Turkish Pasha of Egypt

(1) The last but one of the Mamlûk Sultans of Egypt. He reigned from 906 A.H. (1501 A.D.) until 921 (1516) when he died in the decisive battle of Marg Dâbiq (in Syria) against the Ottoman Sultan Selim I, the conqueror of Egypt (1517).

Copts. In the olden time, one of the Emîrs or the Chief Treasurer (*khazindâr* خزندار) was present on the day of the oil-collection. The best oil was distilled in the month of *Baramhât* (1). The grain was sown from *Ba'ûnah* to *Hatûr* (2). It was counted as one of the wonders of Egypt, and became extinct in the beginning of the Xth century (of the Hijra)."

Ibn Iyâs continues his narrative later on, when his chronicle reaches the year 914 A.H. (1508–9 A.D.) (3) :—

" One of the events (of that year) was that the balsam-tree (*balasân*) which the people called *al-balsam* had become extinct from the soil of Matarîya since the first year of the Xth century (of the Hijra). It was the pride of Egypt over all the other lands, and the kings of the Franks vied each other with the purchase of its oil. They bought it for its weight in gold, for they did not consider the rite of Baptism as perfect except until they could put a little of the balsam-oil into the baptismal water. The extraction of the oil was done in the spring-time during the month of Baramhât. When its growth ceased at Matarîya, the Sultan was greatly disappointed. He never wearied to search for it in other countries until a wild balsam-tree, with the earth round its root, was brought to him from a certain place in the Hijâz (Arabia). It was planted at Matarîya on the same famous site, and when irrigated with the water of that well, it grew and flourished in the

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Ebîb	ⲉⲡⲏⲡ		ابيب	of Epipi, goddess.
Mesore	ⲙⲉⲥⲱⲣⲉ		مسرى	the birth of Ree.

Five epagomenal days. خمسة ايام النسى

ⲉ̅ ⲛ̀ⲉϩⲟⲟⲩ ⲉϩⲣⲏⲓ ϯⲣⲟⲙⲡⲓ the five days over and above the year.

The Coptic year begins on the 11th of September (Julian computation), and New Year's day is called *Nairûz* نيروز , from Persian نوروز .

(1) Corresponding to March-April.

(2) I.e. from June to November.

(3) This part has been recently published by M. Sobernheim, P. Kahle and Muhammad Mustafa (*Die Chronik des Ibn Iyâs Vierter Teil.* Istambûl, 1931, p. 140, l. 8 foll.).

the knees and other kinds of phlegmatic diseases. The oil of this balsam-tree was extracted on the 24th of *Bashans* (1) of the

(1) A Coptic month corresponding to about May. The 24th is the first of June. Agricultural works are all calculated according to the Coptic solar months, and not to the Muslim lunar ones, The Coptic year is a solar year and was instituted in Egypt possibly from the remotest times. The year is divided into twelve months of thirty days each, and added to them is a thirteenth month of five days called the Epagomenal Days, or in Arabic *Ayyâm el-Nasiy* أيام النسى (forgotten days). Every four years they become six days to complete the cycle. We have no record of the names of the Coptic months as they stand to-day before the XVIIIth dynasty. In all inscriptions the year is divided into three seasons of four months each, and the months are recorded according to their ordinal number in the respective season. The first season was that of verdure ; *kh.t.* The second of growth *Pr.t.* The third of inundation *Šm.*

The names of the months were possibly pronounced but not written. In Greek times they were always written according to their names. The Arabic forms were copied directly from the Coptic. In modern folklore each month has its quality thus :—

Hathôr ("the mother of the dispersed gold" (هاتور أم الذهب المنثور) in reference to the Golden Hathor —but more in reference to wheat whose crop is collected in this month.

Baramhât ("go to the field and collect" (برمهات روح الغيط وهات) referring to the crop which is reaped during the month.

Baramûdah ("grind with the threshing machine" (برموده دق بالعاموده) for the threshing of corn, etc.

Here is a list of the Coptic months and their etymology :—

Tôt	ⲑⲱⲟⲩⲧ	توت	of Thoth.
Bâba	ⲡⲁⲁⲡⲉ	بابه	of Ape, Luxor.
Hathôr	ϩⲁⲑⲱⲣ	هاتور	of Hathôr.
Choiahk	ⲕⲓⲁϩⲕ	كيهك	feast of the Ka's.
Tûba	ⲧⲱⲃⲓ	طوبى	Boty by metathesis, Tobe of the cereals.
Amshîr	ⲙⲉⲭⲓⲣ	امشير	of the genius. Mekhir of winds.
Baramhât	ⲡⲁⲣⲙϩⲁⲧ	برمهات	of Amenhotp.
Baramûda	ⲡⲁⲣⲙⲟⲩⲧⲉ	برموده	of Rennute, goddess of corn.
Bashans	ⲡⲁⲭⲱⲛⲥ	بشنس	of Chonsu, the god.
Ba'ûnah	ⲡⲁⲱⲛⲉ	بؤنه	of the Valley of the Kings.

and Engeddi (Josephus, Eusebius). 'Abd-al-Latîf and Burchardus (XIIth century A.D.) did not find any traces of these gardens in Palestine (1). The balm of Gilead was an important ingredient in Holy Oil. It also served medical purposes healing wounds, and was an ingredient in embalming dead bodies.

The Arab physician 'Abd-al-Latîf of Baghdâd (ab. 1200 A.D.) describes the balm-tree-garden of Heliopolis as having an area of seven *feddâns* (about 30,000 square metres); he adds that the produce of this garden is about 20 *ratls* (pounds) of balm a year. De Sacy adds to 'Abd-al-Latîf's report translations from al-Maqrîzî, as-Suyûtî and other Arab historians, as well as some European pilgrims' reports and the legends told by them, (*'Abd-al-Latîf*, pp. 20–22 and 86–90).

The Egyptian historian Ibn Iyâs (d. after 1522 A.D.) in his very detailed chronicle of Egypt ending in the year of his death (2), related how the balsam-trees of Matarîya died and were re-cultivated.

He says (3): "In this year (905 A.H. = 1499–1500 A.D.), the balsam-tree (البلسان وهو البلسم) became extinct in Egypt. It was one of the remains connected with the story of Jesus, son of Mary — peace be unto them. The Franks came to Egypt from the remotest lands in order to buy the oil of this balsam-tree. They paid a high price for it. They (the Egyptians) brought the seed of the wild balsam-tree from the Hijâz, planted it in the soil of al-Matarîya and nursed it; but it did not grow and became extinct in the whole of Egypt, as if it had never grown in Heliopolis (*'Ain Shams*). It was the most venerated tree there, and had never disappeared (before then). It had existed a long time before the rise of Islam. It was of a beautiful smell, and its leaves somewhat resembled the leaves of Jew's mallow (*mulûkhiyya* الملوخية) (Corchorus olitorius L.). Its oil was used for "cold" diseases, like backache, pains in

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(1) W. Heyd. *Histoire du commerce du Levant au moyen âge.* Stuttg., 1878, vol. II p. 577.

(2) كتاب بدائع الزهور في وقائع الدهور لمحمد بن احمد بن اياس, Cairo, 1310–12 A.H. (4 vols.)

(3) Vol. II, p. 373, l. 16 foll.

of an aromatic smell. It is sold and used as a substitute for the balsam-grains. Its habitat is on lofty mountains. Others pretend that it is a kind of Salvadora persica (*ârâk* أراك) ([1]). It is possible to adulterate the balsam-grains with the grains of the species of cypress, as they are very much alike.

Abû Hanîfa: *Al-bashâm* is a tree with a stem and branches, and small leaves larger than those of the marjoram (*sa'tar* صعتر Origanum L.); it has no fruit. If its leaves are cut or its twigs broken a white milky (juice) comes out. It is a tree of fragrant smell and flavour; its twigs are used for cleansing the teeth. Its habitat is in the mountains. Its leaves blacken the hair.

COMMENTARY

The balm of Gilead or Mecca is the resinous juice of the burseracea *Commiphora Opobalsamum Engl.* which grows only in South-west Arabia, the Somaliland opposite to it and some regions of the southern coasts of the Red Sea. Its botanical synonyms are *Balsamodendron gileadense Kth.*, *Amyris gileadensis L.*, *Amyris Opobalsamum L.* and, according to Schweinfurth, *Balsamodendron Ehrenbergianum Berg.* The Arabian name *balasân* is derived from Greek βάλσαμον *balsamon*, whereas *bashâm* (today *bishâm*) is the name of the tree in the land of Yemen (*Schweinf.*, p. 163). The Spanish plant referred to by Gh. may be the tansy (*Tanacetum Balsamita L.*).

The balm of Gilead was in use as remedy, perfume and incense from the earliest times of history. It was well-known to the Ancient Egyptians who called it [hieroglyphs] *t shps*—also [hieroglyphs] *bḳ* (according to H. Brugsch) and brought it, from the land of Punt (South Arabia and the south-west coast of the Red Sea). It was cultivated in Ancient Syria and Palestine (*Theophr.* IX. 6), and later on in gardens near Jericho

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([1]) *See* above No. 7.

grows in many places and it is the grains of this last which are collected and exported by the druggists, and sold by them under the name of balsam-grains.

THE AUTHOR SAYS: I find this explanation erroneous in spite of its currency, because all the (drug) merchants of our days are in accord that the grains of *balasân* and of *bashâm* are the same. Moreover, we often find with the grains of balsam which are brought to us, parts of balsam-wood; and similarly we find with the wood some of the grains, which proves that they are products of the same tree. Concerning the balsam-oil, I met people who say that it grew in Egypt. But those who have visited Egypt pretend that they saw only one balsam-tree at Heliopolis, in a garden under the protection of the Sultan. Nothing of the seed is exported to (other) lands (*fol* 16 *r*) in order to prevent its cultivation (elsewhere). Some people allege that the balsam-oil is extracted from the wood by sublimation; this is contrary to the sayings of the Ancients. It is possible, however, that this oil which is known nowadays as balsam-oil is a different kind of oil from that described by the Ancients, although it is very rare. The grains, on the contrary, are very common and so is its wood. Many physicians wrote about the balsam-tree of Egypt at Heliopolis and described it in their books as being the (real) balsam-tree. It grows to the height of a cubit or more, and has sappy branches like those of the *tithymalis* (*shubrum* شبرم) (Euphorbia pithyusa L.), and red, thin and small leaves resembling those of the willow (*khilâf* خلاف) or the spurge (*yattû'* يتوع). At the ends of its branches it bears clusters containing grains of the size of pepper-seeds but not as black.

We have in our land (*i.e.* Spain) a plant which some people pretend to be *al-bashâm*. It reaches the height of a man, has long and greenish-yellow leaves which are smaller than the leaves of the almond-tree (*lawz* لوز). Its wood is hollow and contains in its interior something white like cotton wool, of an aromatic smell. Its grain is of the size of the cypress grain and

As regards the sticks called balsam-wood, the fresh kind is the best. It is rough and its sticks are minute. It is red and of an agreeable smell, like that of the oil of balsam.

Of the fruits the best are the full, big and heavy ones, which burn the tongue strongly and exhale the odour of the oil of balsam. (A certain kind of fruit is sometimes imported from the country called Πετραῖον (*Petraion, i.e.* Land of Petra) resembling the ὑπέρικον (hypérikon, St. John's wort), as a substitute to the fruits of balsam) ([1]). These can be distinguished by their being small, empty, weak in faculty and with something like the taste of pepper.

Galen VI (XI. 846): The balsam is drying and heating in the second degree; but it has not such a strong heating power as some people erroneously think, on account of its rarefaction. Concerning its fruit called balsam-grain (*habb al-balasân* حب البلسان), its power is the same except that it is less rarefied than the oil.

Diosc. (I; 19, 4): The power of balsam-oil is very strong; it is excessively hot and (therefore) useful against most of the "cold" diseases in the form of a potion, as well as friction or even as an eye-salve, In general the oil is its strongest component; next to it come the grains and after that, the wood.

Ibn Gulgul and Others ([2]): The grain known as balsam-grain is (in reality) the grain of *al-bashâm* البشام ([3]); but it is the balsân-tree ([4]), the wood of which is called balsam-wood and the oil of which is called balsam-oil. It has no fruit and its habitat is in Egypt at Heliopolis only ([5]). On the contrary, *al-bashâm*

([1]) This whole phrase is missing from T. and G., and is inserted by us according to the text of IB. (Bûlâq edition, vol. I, p. 108, line 15 foll.)

([2]) This paragraph as well as the following *exposé* of al-Ghâfiqî's own opinion are missing from IB.

([3]) *Bashâm* is the South-Arabian name for Amyris (Commiphora) opobalsamum. The resinous juice is called *balasân*. See Gh.'s following paragraph.

([4]) In T. a copyist's mistake: *bashâm*.

([5]) In Arabic *'Ain Shams* عين شمس, *i.e.* "Fountain of the Sun," the site of the Ancient Egyptian town "*On*" called Heliopolis by the Greeks.

LETTER BÂ' ب

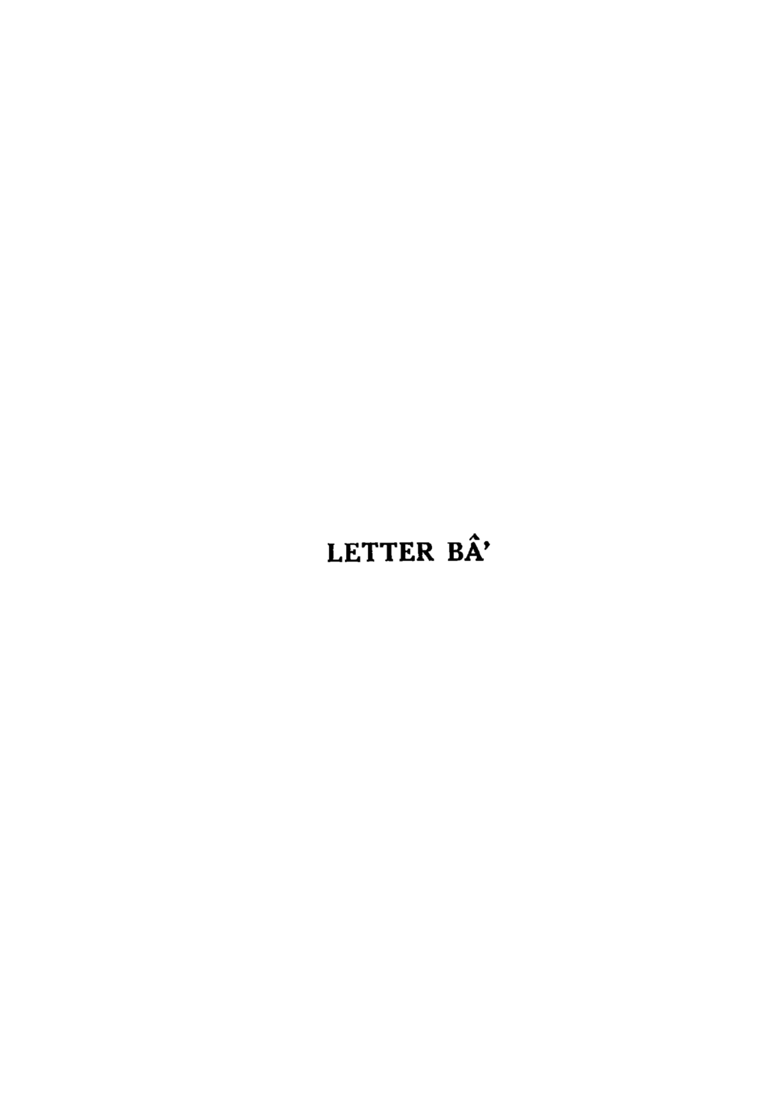
117. Balasân بلسان BALM OF GILEAD (Commiphora Opobalsamum Engl.) (Lecl. No. 336).

DIOSC. I (19): The size of its tree is the same as that of the turpentine-tree (*Butm* بطم, Pistacia terebinthus L.) or the πυράκανθα (*pyrakantha*, Crataegus oxycantha L.). It has leaves like those of the rue (*sadhâb* سذاب) only whiter, longer-lived, more minute and differing from it in roughness, height, (*fol.* 16 *r.*) and size. It is only found in the Valley of Judæa. The flour sticking like hair to the balsam-tree is called "the mown"; perhaps it is so called because it is easily collected. The oil of the balsam-tree, however, exudes after the rise of the Dog Star; the tree is then scarified by means of an iron scalpel and a very small quantity is exuded — so small that only between 50 and 60 pounds (*raṭl* رطل) are collected every year. It is sold on the spot for double its weight in silver. The kind that is fresh, clear, free from any acidity in odour, but possessing a trong smell, easily liquefied, soft and slightly stinging the tongue, is the best. It is sometimes adulterated with the oils of terebinth, henna (*hinnâ* حنا, Lawsonia inermis L.), the mastich-tree (Pistacia lentiscus L.), the lily (*sawsan* سوسن), or the oil called μετώπιον (*metôpion*) [1]; also with the oil of myrtle (*âs* آس) mixed with honey or with wax. The best way to know the pure kind is to drop it on a piece of wool and afterwards wash the latter. The resin then precipitates in water. The adulterated specimen, however, floats on the surface like oil and separates or agglomerates like stars [2]. When it becomes old it thickens. It is wrong to believe that the pure kind, if dropped into water sinks to the bottom at first and then floats on the surface without being liquefied.

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(1) This is said to be an aromatic Egyptian ointment (Diosc. I, 59).

(2) I.e. in drops like stars in heaven.



LETTER BÂ'

in the Moroccan vernacular: *an-nashshâfa* النشافة ("the absorbent") and *sûfat al-bahr* صوفة البحر ("the sea-fleece").

No. 109, **Isfîdhâg:** *Maim.* (No. 20) gives the vernacular Arabic name in use in Morocco: *al-bayâd* البياض ("the whiteness").

No. 110, **Isring:** *Maim.* (No. 28) spells the name *usrung* أسرنج and gives, for this minium, as Arabic names *al-basâlîqûn* and *az-zarqûn* البساليقون – الزرقون. This latter name is still extant in the Spanish language as *azarcon.*

No. 112, **Infaha:** *Maim.* (No. 30) gives the Arabic name *al-'aqd* العقد and the undetermined (Spanish or Berber ?) name *alînû* ألينو.

No. 114, **Ibn 'Irs:** Not recorded by *Maim.* Myogale (μυογάλη) of Diosc. designs the shrew-mouse (*Sorex vulgaris* and *Crocidura aranea*); their Arabic names are, according to *Sharaf* (pp. 240 and 836), *fârat as-sâmm* and *fârat al-misk* فارة السام – فارة المسك

Under the Bibliography we omitted to say that our quoe tations from *Dâwûd* (p. 44) refer to the best edition of his *Tadhkira* (Cairo, Wahbiyya, 1281, in three volumes).

names of the drugs, the Berber ones, and the names in the Moroccan and Andalusian Arabic vernacular, and also the Spanish. Many of these names are corrupt, and the restoration and editing of the text and translation will require a considerable time. We shall collate our text (1) with this MS. and shall use the Synonyms for our commentary. We give here some additions to those that appeared under the letter *Alif* in our first fascicule :—

No. 10, **Iggâs:** *Maim.* (No. 13). The name *barqûq* was in use in Morocco in the XIIth century A.D.

No. 15, **Ambarbârîs:** *Maim.* (No. 17) gives the Arabic names *athwân* أثوان and *as-sawsal* السوسل.

No. 18, **Anaghallis:** *Maim.* (No. 16) mentions as the commonest names in Morocco *'ushbat al-'alaq* عشبة العلق ("leeches' herb").

No. 28, **Ustukhûdûs:** *Maim.* (No. 6) gives two otherwise unknown names: *washâ'i' ash-shaikh* وشائع الشيخ and *sunbul al-ahâniyya* سنبل الأحانية.

No. 30, **Iklîl al-Malik :** *Maim.* (No. 7): the Berber name is *tîrâzan* تيرازن.

No. 33, **Andrâsiyûn:** *Maim.* (No. 33): a name of undetermined origin is *gahânîk* جهانيك

No. 60, **Asâbi' Sufr:** *Maim.* has a special chapter (No. 26) for *asâbi' al-'adhârâ* أصابع العذارى ("virgins' fingers"); he says: "This is a kind of black grapes with long berries resembling dyed fingers arranged in rows."

No. 80, **Afithîmûn:** *Maim.* (No. 23): the name in use in Spain was *as-su'aitira* الصعيترة ("the little thyme").

No. 105, **Isfing:** *Maim.* (No. 5) calls it *isfang al-bahr* اسفنج البحر and gives two more Arabic names which were in use

(1) We owe a photographic copy of this MS. to the kindness of Dr. RITTER.

live on certain desert-plants, in symbiosis with different species of cochineals. All the plants in question produce sweet manna, in reality a product of the cochineals (mostly *Trabutina mannipara* and *Najacoccus serpentinus*); these little insects are protected by a large yellow-brownish spider *Theridium aulicum* which, in turn, is nourished by the sweet produce of the cochineals. It lives on several desert-trees, *e.g. Tamarix nilotica var. mannifera* (*tarfâ* طرفا), but none of these corresponds to the description of *âkharsâg* in Ibn Wahshiyya's *Nabataean Agriculture*. Thus the question remains unsettled.

Of much greater importance to our present publication is the recent discovery in one of the libraries of Istanbul (Constantinople), by Dr. H. Ritter, of an old pharmacological manuscript - *Aya Sofia*, No. 3711. It contains, amongst other valuable matter, a "Discourse on the Explanation of Drug Names" (*Maqâla fî Sharh Asmâ' al-'Uqqâr* مقالة فى شرح أسماء العقار) by Abû 'Imrân Mûsâ ibn 'Abdallâh al-Isrâ'îlî al-Maghribi who is no other than the celebrated Jewish physician and philosopher MAIMONIDES. He was born in Cordova in 1135 A.D., emigrated with his family first to Morocco and from there, in 1165, came to Egypt where he became the chief of the Jewish Community in Cairo and the physician-in-ordinary to Sultan Saladin and to two of his sons and successors. Maimonides died in Cairo in December 1204. Apart from works on theological and philosophical questions, his medical output was considerable (1). The above-mentioned "discourse" was cursorily referred to by Ibn Abî Usaibi'a (vol. II, p. 117, last line), but by no other author. It was therefore considered as non-authentic. Thanks to Dr. Ritter, a copy of this treatise has now come to light, written by the hand of Ibn al-Baitâr himself(2), who died 44 years after Maimonides. The MS. contains 405 articles on drug-names in 55 pages. Maimonides gives the Arabic, as well as the Persian and Greek

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(1) *See* our Introduction, p. 24, No. 43 and MAX MEYERHOF, *L'œuvre médicale Maimonide*, in *Archivio di Storia della Scienza* (*Archeion*), vol. XI (1929), pp. 136–165.

(2) *See* for this scholar our Introduction No. 50 (p. 27).

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The Abridged Version of "The Book of Simple Drugs"

ADDITIONS TO INTRODUCTION AND LETTER ALIF

While the first fascicule of the present publication was in the press, we learnt of certain books which were of help in the explanation of the names and nature of several drugs mentioned in that fascicule.

It was too late to include this information in Fascicule 1, and we give it here. We add (p. 23, after No. 41 al-Bakrî) the Hispano-Jewish physician JÛNUS IBN IS-HÂQ IBN BIKLÂRISH يونس بن اسحق بن بكلارش who composed for the fourth King of Saragossa, Ahmad II. al-Musta'în (d. 503 A.H. - 1110 A.D.) a medical treatise *al-Musta'înî fi't Tibb* المستعيني في الطب. It contained the names and synonyms of simple drugs, as well as their substitutes. This book was frequently used by later pharmacologists, although it was never mentioned by al-Ghâfiqî. *See* the learned article on this book by H.-P.-J. RENAUD, *Trois études d'histoire de la médecine arabe* in Hespéris (Paris, 1931) pp. 135–150.

Next to him we name ABU'L-WALÎD MARWÂN IBN GANÂH ابو الوليد مروان بن جناح a Hispano-Jewish philosopher and grammarian of the XIth century A.D. who wrote, besides his other world-famed works, a treatise, *at-Talkhîs* التلخيص (*i.e.* "the Résumé") on simple drugs, weights and measures. This book contained many synonyms in Spanish and Berber dialects and was much used by later authors. It is sometimes cited by al-Ghafiqî as well as by Ibn al-Baitâr; the Arabic original is lost.

Concerning the undetermined plant *Akharsâg* أخرساج (No. 16, page 84): In a recent work on the natural history of the Sinai Peninsula by F. S. BODENHEIMER and O. THEODOR (*Ergebnisse der Sinai-Expedition, Leipzig, 1927*), it is said that spiders

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